A Reference Guide of Six States: K-12 Funding Formulas in Colorado, Kentucky, Maryland, Massachusetts, North Carolina, and Oregon

A Joint Project of Washington Learns, the Office of Financial Management, and the Office of the Superintendent of Public Instruction

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Executive Summary

In 2005, the Legislature created Washington Learns to conduct a comprehensive study of our state's education system from pre-school through higher education. As directed by the Legislature, a team of staff from the Office of Financial Management (OFM), Washington Learns, and the Office of the Superintendent of Public Instruction (OSPI) reviewed the K-12 funding structures in at least five other states. The states reviewed in this guide are **Colorado, Kentucky, Maryland, Massachusetts, North Carolina,** and **Oregon**.

In an era of standards-based reform, states across the country continue their struggle to **define adequate per-pupil foundation funding**. Our review states are no exception. Oregon, Colorado, Maryland, and North Carolina have each been sued for equity claims; however, the state prevailed in each case. In four of the comparison states (Kentucky, Massachusetts, Maryland, and Colorado), finance reform has been a direct result of adequacy lawsuits mounted against the state. Conversely, Oregon adopted finance reform without experiencing an adequacy lawsuit. However, an adequacy challenge was recently mounted against the state in 2006. In North Carolina, the state undertook initial accountability reform efforts while an adequacy challenge was pending; it implemented additional funding reforms following a court directive. Five of the six states have undertaken costing-out studies, and with the exception of Maryland, the review states only partially implemented the recommended foundation funding level.

Funding for public K-12 education is distributed from the state level to local education districts using a **funding formula**. In some instances, the funding formula calculates the amount of funding for education that comes from state sources only; in other instances, the formula determines the full amount of funding, regardless of source. There are four primary types of education funding: foundation or base formula, modified foundation or base formula, teacher ratio and salaries formula, and dollar funding per-student formula. Beyond those general categories, however, it is evident that each state is unique in how it funds education. In some states, the funding level is determined after other factors (such as teacher education, staffing ratios, and local cost-of-living factors) are calculated. Maryland is one of the six states with a funding formula linked directly to conclusions from a funding adequacy study.

In addition to calculating funding for basic students, many states provide additional, **targeted funding for special populations** of students. Funds for targeted groups are generated either through weighted student formulas, historical spending patterns, or funding set aside by the state. Special education funding has been studied exhaustively, but like basic education funding, no national standard has been determined for how to allocate funds or how much funding is necessary. The funding formulas for English Language Learners (ELL) and low-income students are more standard, but are not provided in all states.

Because **staff salaries and benefits** account for nearly 85 percent of funds spent on education, financing an adequate education requires employing teachers who can effectively teach to state standards and federal mandates. The states in our study that have implemented alternative teacher pay systems offer useful lessons:

- **Kentucky** is the first state to experiment with and implement several alternative compensation pilots (pay for performance, knowledge and skills-based pay (KSBP), and most recently, differential pay).
- **North Carolina** is one of the few states to have implemented a statewide group pay for performance system.
- **Colorado** has implemented two local programs where alternative compensation has replaced the single salary schedule. In both instances, teachers move up the salary schedule based on pay-for-performance and KSBP elements.

These different experiences with reform provide useful examples for policymakers. While implementation resulted from a variety of factors, fiscal commitment was a key factor in our comparison states. In North Carolina, implementation resulted from political leadership and sustained fiscal commitment (Manzo 2006). In contrast, a lack of ongoing fiscal support in Kentucky caused the state to struggle with sustained reforms.

The purpose or goal of **school-based performance awards and sanctions** "is to create incentives for educators to modify their skills, capacities, and teaching practices to facilitate improvement in student performance." Research conducted in Kentucky, Maryland, and North Carolina suggests that incentives may impact student achievement gains because they provide teachers with a clear sense of goals that inform professional development and encourage teacher collaboration. It is important to keep in mind that different incentive structures may impact teacher behavior differently. For example, research found that Kentucky teachers were more familiar with their accountability program and the opportunity to receive bonuses for improvements in measured outcomes. In contrast, teachers in Maryland, which provides school improvement funds, were less familiar with the rewards program.

One strategy that states are employing to close the achievement gap is to help improve the **kindergarten readiness** of children who are entering the K-12 system. Proponents of early education claim that quality preschool reduces future costs in juvenile detention, remedial classes, special education, and even health care costs. Our review states operate the following pre-K programs:

- **Colorado** created the Colorado Preschool Program to decrease the K-12 dropout rate
- **Kentucky** created the Kentucky Preschool Program to help schools meet state accountability standards
- **Maryland** (Prekindergarten Program), **Massachusetts** (Community Partnerships for Children), and **North Carolina** ("More at Four") all created their programs to serve children at risk of failing in the K-12 system
- **Oregon** created a state version of HeadStart for low-income 3- and 4-year-olds.

CHAPTER ONE: OVERVIEW AND HISTORY OF SIX STATES

Introduction

As directed by 2005 legislation creating Washington Learns (Engrossed Substitute Senate Bill 5441), a team of staff from OFM, Washington Learns, and OSPI reviewed the K-12 funding structures in at least five states to compare them with Washington. This analysis will provide a larger context in which to view other components of the study required in ESSB 5441. The states reviewed are Colorado, Kentucky, Maryland, Massachusetts, North Carolina, and Oregon.

In December 2005, staff worked with the K-12 finance consultants, legislative staff, and staff from OSPI to select states that would be useful to compare to Washington's K-12 finance structure. We selected the six states involved because they highlight some combination of the following:

- Similar demographics to Washington
- Current innovative practices in K-12 funding, including targeted funding formulas
- Funding formulas linked to student performance levels
- Different spending and performance levels than Washington

We will review the overall funding formulas used in each of these states. We will then focus our reviews of each state more specifically on an "area of emphasis," including:

- Supplemental funding based on poverty rates, number of English Language Learners (ELL), and special education students
- Funding based on teacher/staff compensation (teacher ability, experience, and/or performance)
- Funding based on student performance (measured through high-stakes testing)

Six States in our Review

This section of the report highlights some basic information about the six states chosen for this review. In order to provide a quick overview of the education systems in each one, **Exhibits 1, 2** and **3** display basic comparative data for the six states.

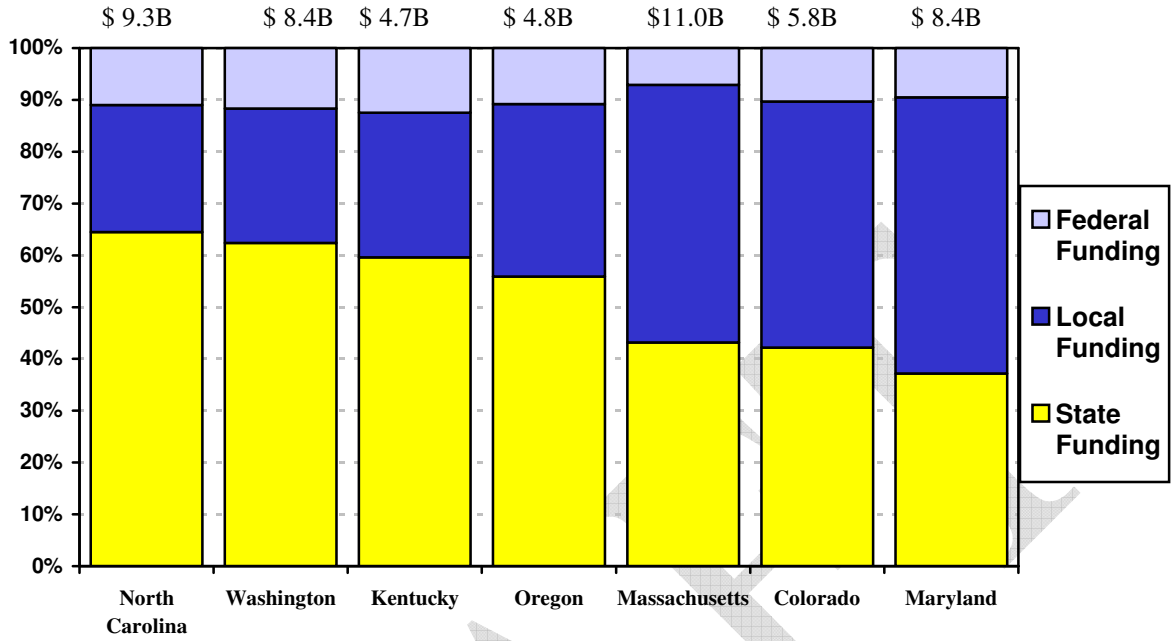
Exhibit 1: Demographic Data for School Year 2003-04

	WA	CO	KY	MD	MA	NC	OR
School Districts (a)	296	178	176	24	496	115	198
Public Schools (b)	2,241	1,658	1,370	1,366	1,860	2,260	1,225
Pre K-12 Students (b)	1,021,349	757,693	663,885	869,113	980,459	1,360,209	551,273
Students per Teacher (b)	19.3	16.9	16.1	15.8	13.6	15.1	20.6
Minority Students (b)	29%	36%	13%	50%	25%	42%	23%
Low-income Students (c)	38%	27%	49%	30%	25%	38%	36%
Students w/ Disabilities (b)	11%	10%	16%	12%	16%	14%	13%
ELL Students (b)	9%	13%	2%	3%	6%	5%	13%

Source: (a) Staff Analysis; (b) NCES, Public Elementary and Secondary Students, Staff, Schools, and School Districts: School Year 2003-04; and (c) NCES, Overview of Public Elementary and Secondary Schools and Districts: School Year 2001-02.

Exhibit 2 indicates the relative percentage of each state's K-12 budget from federal, local, and state funding. Across the top you will see the total dollars spent on education. Maryland and Washington have similar totals but very different methods in which to fund education. In Maryland, more than 50 percent of its funding comes from local funds, while local funds account for only 25 percent in Washington.

Exhibit 2: Source of Funding for School Year 2001-02



Source: U.S. Department of Education, National Center for Education Statistics (NCES), 2001-02

Exhibit 3 indicates the average standardized test scores by state for 4th and 8th grade reading and math.

Exhibit 3: 2005 NAEP Results At or Above Proficient

	WA	CO	KY	MD	MA	NC	OR
Grade 4 Reading	36%	37%	31%	32%	44%	29%	29%
Grade 8 Reading	34%	32%	31%	30%	44%	27%	33%
Grade 4 Math	42%	39%	26%	38%	49%	40%	37%
Grade 8 Math	36%	32%	23%	30%	43%	32%	34%

Source: NAEP 2005

CHAPTER TWO: EDUCATION FINANCE REFORM

Legal Challenges to Adequate Education Funding

In 1973, the U.S. Supreme Court held in *San Antonio Independent School District v. Rodriguez* that unequal K-12 education spending did not violate the U.S. Constitution. The *Rodriguez* court case indicated that education financing was not a federal issue, leading to a rise in state court challenges to school financing systems across the country in the 1980s and 1990s. Equity claims (claims that challenged the inequity of resources in poorer versus wealthier districts) were the most common; however, plaintiffs did not often prevail on such claims.[1] Oregon, Colorado, Maryland, and North Carolina have each been sued for equity claims; however, the state prevailed in each case.

Court challenges later shifted to adequacy claims; that is, whether states were providing minimum adequate funding in accordance with state constitutional requirements. To reach adequate funding requirements, states must fund to minimum standards in each of the states. State education funding requirements vary depending on state constitutional requirements. For example, the Washington State Constitution, Article IX, Section 1, states:

> "*It is of paramount duty of the state to make ample provision for the education of all children residing within its borders.*

And Article IX, Section 2, states:

> *"The Legislature shall provide for a general and uniform system of schools…"*

This constitutional clause is unique to Washington. For example, the provision to make "ample provisions" is strong in comparison to other state constitutions. The specific education clauses for each state, shown in **Exhibit 7**, set the bar for determining adequate funding.

[1] Education Commission of the States (ECS) reports that plaintiffs won approximately one-third of "equity" lawsuits, a smaller percentage in comparison to adequacy lawsuits where plaintiffs won nearly two-thirds.

Exhibit 7: State Obligations by State

State	State Obligations for Public School Funding
Colorado	" A thorough and uniform system of free public schools throughout the state" - Article IX, Section 2
Kentucky	"An efficient system of common schools throughout the state" - Section 183
Maryland	"A thorough and efficient system of public schools" - Article VIII, Section 1
Massachusetts	"To cherish the interest of literature and the sciences, and all seminaries of them; especially the university of Cambridge, public schools and grammar schools in town, etc." - Chapter 5, Section II.
North Carolina	"A general and uniform system of free public schools…wherein equal opportunities shall be provided for all students." – Article IX, Section 2
Oregon	"A uniform and general system of public schools." – Article VIII, Section 3
Washington	"It is the paramount duty of the state to make ample provision for the education of all children residing within its borders" – Article IX, Section 1 "The legislature shall provide for a general and uniform system of public schools." - Article IX, Section 2

Source: Education Commission of the States, 2002

Adequacy Cases in the Study States

In the past decade, trends in funding challenges have moved from equity to adequacy, due in part to emerging federal and state performance requirements such as the federal No Child Left Behind Act. In fact, adequacy lawsuits are "one of the unintended consequences of standards based reform" according to Steve Smith, a senior policy specialist at the National Conference for State Legislatures (Prah, 2003). Adequacy suits challenge whether states are providing adequate basic per-pupil funding. In some cases, they also challenge whether targeted students (e.g., special education) or population subgroups (e.g., low-income) are receiving adequate funding. While Washington is currently not defending an adequacy challenge to basic education funding, an adequacy lawsuit has been mounted against the state on special education funding.

In four of the comparison states (Kentucky, Massachusetts, Maryland, and Colorado), finance reform has been a direct result of adequacy lawsuits mounted against the state. Oregon adopted finance reform without experiencing an adequacy lawsuit, but an adequacy challenge was recently mounted against the state in 2006. In North Carolina, the state undertook initial accountability reform efforts while an adequacy challenge was pending; it implemented subsequent funding reforms following a court directive.

Colorado

In the late 1980s, a suit was filed against the state claiming a denial of "basic" education opportunities. The suit was withdrawn, but ultimately led to the passage of the Public School Finance Act of 1988 (which was since repealed and replaced with the Public School Finance Act of 1994).

In 1988, yet another group of plaintiffs sued the Board of Education, claiming that the poor physical state of the public school buildings "deprived students of educational opportunity." In June 2000, a trial court judge approved a settlement of the suit, in which the state committed to spend $190 million over more than 10 years for repairs and new construction. The Legislature passed Bill 181 in 2000 to implement the settlement. In 2002 (updated in 2004), the Colorado School Finance Project (CSFP), a non-profit research group, financed an adequacy study for Colorado.[2] The study used two models to determine funding adequacy in Colorado: professional judgment and successful schools.

In July 2005, *Labato v State of Colorado* was filed by Children's Voices, a Colorado public interest law firm.[3] The suit claims the state violates its constitutional requirement to provide a "thorough and uniform system" of free public schools. The complaint also alleged underfunding of special education and the Colorado Preschool Program.

Denver District Judge Martinez dismissed the case in April 2006, noting that the state implemented Amendment 23 in order to provide additional education funding not previously allowed under the Tax Payer Bill of Rights (TABOR). The court made the following conclusions:

- State school funding adequacy should be decided by voters and the state Legislature;
- State courts do not have the power to address funding adequacy;
- The state's funding does meet minimum requirements; and
- School districts should not receive uniform funding (from the state) because that would undermine local control.

Coalition members have appealed to the State Supreme Court.

Kentucky

Kentucky's finance reform efforts are in response to funding challenges leveled against the state. Specifically, in 1989, the Kentucky Supreme Court delayed its opinion in *Rose v. Council for Better Education*, 790 S.W.2d 186 (Ky. 1989), pending the adjournment of that session's

[2] Reasons included: to quantify the financial concerns of school districts; to articulate financial needs tied to academic achievement; to demonstrate the importance of both equity and adequacy; to explore a new finance system responsive to all districts and to address specific issues around special education, ELL and at-risk populations.
[3] The suit was filed by Children's Voices on behalf of 14 individual school districts, the Colorado Education Association, the Colorado Association of School Boards, and the Colorado Association of School Executives.

General Assembly. Responding to the *Rose* court's directive, the General Assembly enacted sweeping reform legislation (the Kentucky Education Reform Act - KERA) and the state's current funding formula (Support Education Excellence in Kentucky). The funding formula, driven by the needs of children, including those living in poverty and with special needs, guaranteed that districts receive the same per-pupil funding in 1991-1992 through the "hold harmless provision." In 2003, Kentucky commissioned three different costing-out studies and arrived at three different costing-out estimates. (Picus, 2003 and Vergastern, 2003). Kentucky did not implement the per-pupil amount recommended by any of these studies. The state returned to court in 2003 to defend two separate adequacy lawsuits. The consolidated case is *Young v. Williams,* and its outcome is pending.

Maryland

Maryland's current finance reform efforts are a result of adequacy litigation. In *Bradford v. Maryland State Board of Education (1994*), the circuit court ruled that the state is "still not providing the children of the city of Baltimore a constitutionally adequate education" and "needs to provide additional funding of approximately $2,000 to $2,600 per pupil in 2001 and 2002." Although Maryland did not comply with the order, it created the Commission on Education Finance, Equity and Excellence (Thornton Commission) to make recommendations regarding the state's school funding system. Following the creation of the "Thornton Commission," Maryland initiated two adequacy studies[4] in 2001 to be conducted by two different consultants.[5]

The commission's recommendations, which outlined the state's current foundation funding formula and increased base spending, were based on components of both proposals. The proposal increased per-pupil foundation spending, directed a greater percentage of funds to targeted districts, and increased state aid for students with special needs (see Targeted Funding section for more information). Despite an economic downturn, Maryland approved the measure in 2003, which included recommendations for structural changes and a $1.3 billion increase in state funding to be phased in over the next six years.

Massachusetts

Prior to the enactment of the Massachusetts Education Reform Act (MERA) of 1993, the adequacy of Massachusetts's finance system was challenged in *McDuffy v. Secretary of the Office of Education.* In this early adequacy case, plaintiffs sued districts for failure to provide them with sufficient funds. In 1993, the Supreme Judicial Court of Massachusetts concluded that the Commonwealth was not providing children in less affluent communities with an adequate education. The court proposed no specific remedy and instead directed the matter to the Legislature, which was already in the process of enacting the Education Reform Act of 1993.

Six years after passage of the Education Reform Act, the adequacy of funding for students in low-wealth districts was challenged again in *Hancock V. Driscoll*. The basis for this case rested

[4] The successful school (district) Model and the Professional Judgment Model.
[5] Augenblick & Meyers (A&M) and Management Analysis & Planning (MAP).

upon three different adequacy studies commissioned by the plaintiffs in 2003. The judge in *Hancock* rejected the professional judgment study pointing to the "subjectivity" of the procedure[6], and further rejected the successful schools methodology as "fatally flawed." The judge ignored the third adequacy study utilizing the expert judgment model. In April 2005, the court ruled in favor of the state, finding that the Governor and the Legislature had made and continued to make considerable improvements in the education of all students since *McDuffy* in 1993. This decision marked one of the first instances where the state prevailed in an adequacy lawsuit.

North Carolina

North Carolina's education finance system has been tied up in legal challenges for nearly the last decade. The state passed its two centerpieces of accountability reform while an adequacy lawsuit (*Hoke v. County*) was pending: the *ABCs of Public Education* of 1996 [ABCs stands for (A) Accountability (B) Basic Skills, and (C) Local Control] and the *Excellent Schools Act of 1997*. In 2004, in *Hoke County Board of Education v. State*, the Supreme Court affirmed the lower court's ruling that North Carolina's K-12 funding system was unconstitutional. The remedial order required the state to reassess its basic allocation and correct funding deficiencies in targeted low-wealth districts. The court affirmed the order that:

> *As the State reassesses its … educational obligations, it must structure its proposed solutions to ensure there are competent teachers in classrooms, competent principals in schoolhouses, and adequate resources to sustain instructional and support programs that will aid the… school children to gain their opportunity to obtain a (constitutionally acceptable) education.*[7]

Based on the court directive, North Carolina was one of the first states in the nation to direct targeted funding to specific low-wealth districts.

Oregon

Unlike Kentucky, Maryland, and Colorado, Oregon established a new adequacy funding formula prior to an adequacy suit being filed. Oregon adopted its adequacy funding formula following voter approval of a series of ballot measures from 1987 to 2000. As a result of these measures, the Legislature increased state funding in 1991, and responsibility for financing Oregon's K-12 system shifted primarily from property tax revenue raised in local districts to the state. Oregon's current equalization funding formula aims to equalize per-pupil funding across districts.

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[6] The judge stated that they had created to "some extent a wish list." In the end, the only district in the state that fit within the studies' measurement of adequacy was Cambridge, the state's highest spending and lowest achieving district (Costrell, 2006).

[7] The only part of the trial court's remedial order that the Supreme Court reversed was the directive to fully fund preschool for "at risk children." The court did acknowledge that there was clear evidence to support the findings that "at risk children" start behind. However, according to the North Carolina Constitution, determination of the proper age of school children is within the jurisdiction of the General Assembly.

In 2000, Oregon's governor and state superintendent appointed and directed the Quality Education Commission to prepare the Quality Education Model (QEM) 2000. A state constitutional amendment passed in 2000 requiring the state to publish a report which "demonstrates the appropriation is sufficient or identifies the reasons for insufficiency, its extent, and the impact on the ability of the state's system of public education to meet these goals.[8] Legislation[9] requires the President of the Senate and Speaker of the House of Representatives to jointly appoint a special legislative committee to issue a report pursuant to this amendment. The legislation directs the Quality Education Commission (QEC), as a permanent part of the Oregon Department of Education, to analyze and report every two years on the following:

- Current practices and their costs
- Best practices and their proposed costs
- Whether current school funding practices are sufficient.[10]

Despite this legislative requirement, Oregon did not implement the foundation per-pupil amount recommended by this adequacy study. Subsequently, the Oregon School Defense Foundation filed an adequacy suit on March 21, 2006.

Exhibit 5: History of Adequacy Lawsuits and Studies by State

State	Most Recent Adequacy Suit	Status	Was Adequacy Study Performed?	Initiated By
CO	*Labato v. State of Colorado*	No decision yet	Yes	Local Initiated
KY	*Young v. Williams*	No decision yet	Yes, 2003	Local Initiated
MD	*Bradford v. Maryland State Board of Education (1994)*	No	Yes, 2001	State Initiated
MA	*Hancock vs. Driscoll*	Yes	Yes, 2003	Court Initiated
NC	*Hoke County Board of Education vs. State*		No	
OR		No decision yet	Yes, 2000	State Initiated

Source: Staff analysis

[8] Constitution of Oregon, Article VIII, Section 8
[9] Department of Education, Basic Charge of Commission (HB 2295), 2004 http://www.ode.state.or.us/sfda/qualityed/charge.aspx
[10] Hunter, Molly, Oregon: Costing Out, Access, May 3, 2004, http://www.schoolfunding.info/states/or/lit_or.php3#orco

CHAPTER THREE: BASIC FUNDING FORMULAS

Introduction

Funding for public K-12 education is distributed from the state level to local education districts using a funding formula. In some instances, the funding formula calculates the amount of funding for education that comes from state sources only; in other instances, the formula determines the full amount of funding, regardless of source. This chapter explains the basic funding formulas for the six review states. In the next chapter, the funding mechanisms used for specialized programs (such as special education and English Language Learners).

Funding Formula Types

States distribute funding to school districts according to funding formulas. There are various bases on which to create and use an education funding formula:

- **Per-student base** amounts of funding, or "foundation funding," establishes a base amount of funding for each student that is then adjusted based on specific additional student educational needs.

- **Modified foundation/base formula** uses a base amount of funding for each student. The base amount may be adjusted for a variety of factors and can vary from district to district. These factors may include teacher experience, historical allocations, qualifications in certain areas (net assessed value per pupil, percentage of students participating in the free lunch program, enrollment, etc.), or local revenues. This is different from the base amount described above because the base amount can increase or decrease from district to district.

- **Teacher ratios and salaries** are funded by districts based on a calculation of the number of teachers and other staff needed to educate the number of students projected and their experience and education. In this formula, the state makes implicit assumptions around the number of teachers, class size or school size (e.g., 46 teachers per 1000 students, one teacher per 20 students, or one principal per 400 students).

- **Dollar funding per-student** formula is similar to foundation funding in that each student has a base funding amount. However, this funding amount is determined by various categories that generate a certain dollar amount.

Per-Student/Base Formula (or Foundation Funding)

Three states in the study use a foundation formula. Colorado, Kentucky, and Maryland begin with a base amount for each student that is then multiplied by the number of full-time equivalent (FTE) students.

The base student amount for each state is:

- Colorado - $4,717 in 2005-06
- Kentucky -$3,240 in 2005-06
- Maryland - $5,039 in 2005-06

Full-time Equivalent (FTE) Student

Each of the states using a foundation formula defines FTEs differently, with advantages and disadvantages to each method.

In Colorado, a total pupil count is made in October of each year to determine the district's total funding for the current school year. In districts where the pupil count greatly varies from year to year, an average of pupil counts for the three prior years is used. The pupil count includes current year enrollment, charter school students, preschool students (counted each as .5 FTE), and on-line students.

The foundation base in Kentucky is calculated using the prior year's average daily attendance with a growth adjustment based on school population changes. This accounts for any growth a school may experience.

Maryland defines FTE students as the number of students enrolled in grades 1-12, a proportion of the students in kindergarten programs, and the number of students enrolled in evening high school programs. The FTE is calculated using the September 30 student count of the prior fiscal year.

Adjustments to Per-Pupil Funding

In some states, the base funding amount is adjusted depending on changing district characteristics, cost-of-living factors, or inflation. For instance, Colorado's formula makes adjustments to the statewide per-pupil amount to account for local cost-of-living differences, variations in teacher pay, and district size differences. To calculate "total per-pupil funding," the pupil count of each district is multiplied by the base funding amount once it is recalculated based on those three factors.

COLORADO	**Total per-pupil funding =**
(Base funding)(Cost-of-living factor)(Personnel costs factor)(Size factor)	

The cost-of-living factor reflects the differences in costs of housing, goods, and services among the 178 districts. Cost differences are reviewed and revised every two years by the Legislative Council of the Colorado General Assembly. The cost differences are calculated based on a

basket of goods composed of housing, transportation, goods and services, and "other" (Garner and Eckert, 2002). For 2005-06, the cost-of-living index ranges from 1.009 to 1.641.

The personnel costs factor is based on historical information of staff expenses and incorporates the cost-of-living factor identified above. For 2005-06, this factor ranges from 79 to 90 percent.

The size factor is determined using an enrollment-based calculation unique to each district. This factor is intended to recognize economies of scale. Smaller districts receive greater size factors than do medium or larger districts. For 2005-06, size factors range from 1.0297 to 2.3725.

Once this "total per-pupil funding" amount is calculated, it is then increased again with specific funds for at-risk students and on-line students to arrive at "total program." The details of Colorado's at-risk and online funding will be discussed in more detail in the Targeted Funding section of this report.

In Kentucky and Maryland, the per-pupil amount is predetermined in budget or law and that amount is then adjusted. In Kentucky, the per-pupil amount is then multiplied by the prior year average daily attendance plus a growth adjustment to reflect differences in school population characteristics. The final amount is then the "adjusted base guarantee."

KENTUCKY **Adjusted Base Guarantee =**

(Per-pupil amount)(Prior Year Average Daily Attendance + Growth Adjustment)

Maryland's per-pupil amount is set in statute and based on an adequacy study which estimated how much funding would be needed to ensure that the "average" student could meet Maryland's academic performance standards. From 2004 through 2008, per-pupil spending will increase until it reaches approximately $6,400, the target identified in the study. After the target per-pupil funding is reached in 2008, the amount will be adjusted annually based on inflation. For Fiscal Year 2003, the foundation amount was set at $4,291. For 2004, the amount increased to $4,766 and in Fiscal Year 2005, it increased to $5,039 (Department of Legislative Services, 2005).

MARYLAND **Aid to Districts =**

(Per-Pupil Foundation)(Inflation)(Local Enrollment)

Modified Foundation/Base Formula

Oregon funds its education system with a modified base formula. The base number is adjusted up or down depending on teacher experience.

Oregon

The **K-12 equalization formula** calculates equalized amounts of funding for each school district. The equalization formula revenue is equal to the sum of the general purpose grant,

transportation grant, and facility grant.[11] The equalization formula revenue is the sum of the district's State School Fund and local revenue. The equalization grant revenue is then adjusted for three cost factors including teacher experience, transportation and the school facilities grant.

Teacher experience is a factor on which additional pay is based.[12] The funding formula accounts for increases in teacher salaries through an adjustment to the basic funding formula. The formula increases the base funding per student by $25 for each year the district's average teacher experience surpasses the statewide average and decreases the base funding by $25 each year the district's average teacher experience falls short of the statewide average.

General Purpose Grant =

(ADMw)[13] ($4,500 adjusted by teacher experience and available funds)

The general purpose grant equals the weighted student count multiplied by the pre-adjustment base funding per student (set at $4,500). This base number is adjusted up or down depending on teacher experience and the "available funds" or state and local appropriations.

Teacher Ratio and Salaries Formula

North Carolina and Washington each allocates money to the local education agencies or districts based on education staffing ratios and dollar allotments for non-employee related costs.

North Carolina

The basic unit of allocation is average daily membership (ADM). ADM is based on the total days in membership for all students in individual school districts divided by the number of school days in the term (Information Analyst, 2006). ADM is based on the higher of (a) ADM for the previous year or (b) projected ADM for the current year. The ADM funding provides the basis for funding which is allocated to positional, district and categorical allotments.

Positional allotments fund teachers, instructional support personnel, and school building administration. Districts receive funds for position allotments based on the established salary schedule. Each school system will have a different average salary base for certified personnel based on the their level of experience, education and performance. Teachers are allotted to school districts based on the teacher allotment ratio (**Exhibit 8**).

[11] "K-12 and ESD School Finance, State School Fund Distribution." Legislative Revenue Office, State of Oregon. November 2001, pg 6

[12] The formula which measures statewide average teacher does not include principals, counselors, etc.

[13] To get ADMw, the student average daily membership (ADM) number is weighted according to the type of student being served. Kindergarten students receive a .50 rate, elementary district students receive a .90 rate and union high district students receive a 1.20 rate. Other student cost weights are discussed in the Targeted Funding Formula section of the report.

Exhibit 8: Teacher Allotment Ratio

2005-2006 Grade Span	Teacher Allotment Ratio	Class-Size Average Ratio for the district	Individual Class-Size Maximum
K-3	1:18	1:21	1:24
4-6	1:22	1:26	1:29
7-8	1:21	1:26	1:29
9	1:24.5	1:26	1:29
10-12	1:26.64	1:29	1:32

Source: Information Analysis, Division of School Business, North Carolina Department of Public Instruction

Teacher allotment ratios are used to fund school districts and to give districts extra funding because it is recognized that districts need the flexibility to assign students where it is most appropriate. The allotment ratios are lower than the individual class-size maximums to give the district extra funding in case they cannot assign students to classes exactly by the formula amount. The individual class size maximums are defined in the Allotment Policy Manual and State Board of Education policy.[14] The Information Analysis and Reporting Section within the North Carolina Department of Public Instruction is responsible for monitoring district compliance with class size maximums.

School districts use **dollar allotments** to hire employees or purchase goods based on the allotted dollar amount for teaching assistants, central office administration, textbooks, classroom materials/supplies/equipment.

Districts use **Categorical Allotments** to purchase services necessary to address the needs of specific populations, such as gifted, at-risk, disabled, or Limited English Proficiency (LEP) students. Categorical allotments fund personnel such as teachers, teacher assistants, instructional support personnel or to purchase supplies and materials for these groups of students. Categorical allotments also fund driver education, student accountability, low-wealth supplemental funding, school technology, staff development, transportation and vocational education.

Dollar Funding per-Student Formula

Massachusetts

Massachusetts uses a base amount but differs from the other states in that a base amount can be different for each classification of student.

[14] General language that states there will be maximums that are monitored is in GS 115c0301 (Student Accounting Manual)

Since 1993 few changes have been made to the foundation budget calculation. Chapter 70[15] of Massachusetts state law spells out in detail how the foundation budget is calculated. In addition, though these base ratios and salaries remain in state law, Chapter 70 also requires that these figures be updated each year to reflect inflation. For instance, according to the Department of Education, the rates used in Fiscal Year 2005 are 31 percent higher than those used in Fiscal Year 1994.

The foundation amount is based on nineteen functional categories, established by the Superintendent in 1993, and ten different student classifications. The first step in calculating the foundation amount is to classify students into one of the following categories (Hatch and O'Donnell, 2006):

1. Regular education or special education pre-kindergarten
2. Regular or special education half-day kindergarten
3. Regular or special education full-day kindergarten
4. Regular or special education elementary (grades 1-5)
5. Regular or special education junior high/middle (grades 6-8)
6. Regular or special education senior high (grades 9-13)
7. Limited English pre-kindergarten
8. Limited English half-day kindergarten
9. Limited English (grades 1-12)
10. Vocational education (grades 9-13)

In determining a district's foundation budget, its headcount in each of the above categories is multiplied by a cost rate that is set by statute and reflects annual inflation. **Exhibit 9** illustrates the foundation budget per-pupil rates for Fiscal Year 2005. Each student generates a specific cost in each functional category with the upper grades generating higher costs than the lower. For example, a Junior High/Middle School student generates $65.46 under the Athletics category (category #13), but each high school student generates $261.83 under the same category (Hatch and O'Donnell, 2006).

Foundation Amount =

[(Pre-kindergarten headcount X Pre-kindergarten per-pupil rate) + (Half-day kindergarten headcount X Pre-kindergarten per-pupil rate) + (Full-day kindergarten headcount X Full-day kindergarten per-pupil rate) + (Grades 1-5 headcount X Grades 1-5 per-pupil rate) + (Grades 6-8 headcount X Grades 6-8 per-pupil rate) + (Grades 9-13 headcount X Grades 9-13 per-pupil rate) + (targeted funding headcounts X targeted funding per-pupil rates)]

[15] The Chapter 70 program is the major program of state aid to public elementary and secondary schools. In addition to providing state aid to support school operations, it also establishes minimum spending requirements for each school district and minimum requirements for each municipality's share of school costs (Hatch and O'Donnell, 2006).

Summary

As detailed in this chapter, there are four primary types of education funding: foundation or base formula, modified foundation or base formula, teacher ratio and salaries formula, and dollar funding per-student formula. Beyond those general categories, however, it is evident that each state is unique in how it funds education. Each state's formula is responsive to its own fiscal realities, court system interpretations, and public will.

Exhibit 9: Massachusetts Funding Formula

Massachusetts Department of Education
Office of School Finance

FY05 Foundation Budget Per Pupil Rates

		(A) Pre-School	(B) Kindergarten Half Time	(C) Kindergarten Full Time	(D) Elementary	(E) Jr High/ Middle	(F) High School	(G) Special Ed In School	(H) Special Ed Tuitioned Out	(I) LEP PK	(J) LEP K Half	(K) LEP K Full to Grd 12	(L) Vocational	(M) Low Income Elementary	(N) Low Income Other
1)	Foundation Enrollment														
2)	Teaching Salary	1,130.63	1,130.63	2,261.27	2,261.25	1,989.91	2,926.33	6,218.46	0.00	1,658.26	1,658.26	3,316.51	4,974.77	1,492.43	1,492.43
3)	Support Salary	360.67	360.67	721.34	721.34	1,243.69	208.94	3,780.82	0.00	360.67	360.67	721.34	208.94	0.00	0.00
4)	Aides' Salary	70.69	70.69	141.39	141.39	23.56	9.43	1,472.79	0.00	70.70	70.70	141.39	9.43	0.00	0.00
5)	Principals' Salary	121.75	121.75	243.50	243.50	284.09	284.09	0.00	0.00	121.75	121.75	243.50	284.09	0.00	0.00
6)	Clerical Salary	66.61	66.61	133.22	133.21	133.21	133.21	484.39	484.39	66.61	66.61	133.21	133.21	0.00	0.00
7)	Health Salary	32.73	32.73	65.46	65.46	49.09	49.09	0.00	0.00	32.73	32.73	65.46	49.09	0.00	0.00
8)	Central Salary	93.34	93.34	186.68	186.68	186.68	186.68	1,400.14	1,400.14	93.34	93.34	186.68	210.03	0.00	0.00
9)	Custodial Salary	98.11	98.11	196.22	196.23	212.74	206.27	657.85	0.00	132.83	132.83	265.65	341.03	98.19	98.19
10a)	Salary Benefits	255.77	255.77	511.54	511.54	486.38	467.29	2,155.32	197.94	321.75	321.75	643.50	724.86	186.63	186.63
10b)	Other Benefits	27.23	27.23	54.46	54.47	51.79	49.76	229.51	21.08	34.26	34.26	68.52	114.86	19.87	19.87
11)	Expanded Program	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	497.48	0.00
12)	Professional Development	44.73	44.73	89.47	89.48	97.01	94.06	299.98	0.00	60.57	60.57	121.14	155.51	44.77	44.77
13)	Athletics	0.00	0.00	0.00	0.00	65.46	261.83	0.00	0.00	0.00	0.00	0.00	261.83	0.00	0.00
14)	Activities	0.00	0.00	0.00	32.73	45.82	58.91	0.00	0.00	16.37	16.37	32.73	58.91	0.00	0.00
15)	Maintenance	129.51	129.51	259.03	259.02	280.81	272.28	868.36	0.00	175.33	175.33	350.66	594.17	129.61	129.61
16)	Special Education Tuition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17,673.52	0.00	0.00	0.00	0.00	0.00	0.00
17)	Miscellaneous	53.06	53.06	106.12	106.11	106.11	106.11	552.46	28.80	53.06	53.06	106.11	106.11	0.00	0.00
18)	Books and Equipment	163.64	163.64	327.29	327.29	327.29	523.66	261.83	0.00	163.65	163.65	327.29	916.40	0.00	0.00
19)	Extraordinary Maintenance	86.34	86.34	172.68	172.68	187.21	181.51	578.91	0.00	116.89	116.89	233.77	300.11	86.40	86.40
20)	Total	2,734.81	2,734.81	5,469.67	5,502.38	5,770.85	6,019.45	18,960.82	19,805.87	3,478.77	3,478.77	6,957.46	9,443.35	2,555.38	2,057.90

Source: Massachusetts Department of Education

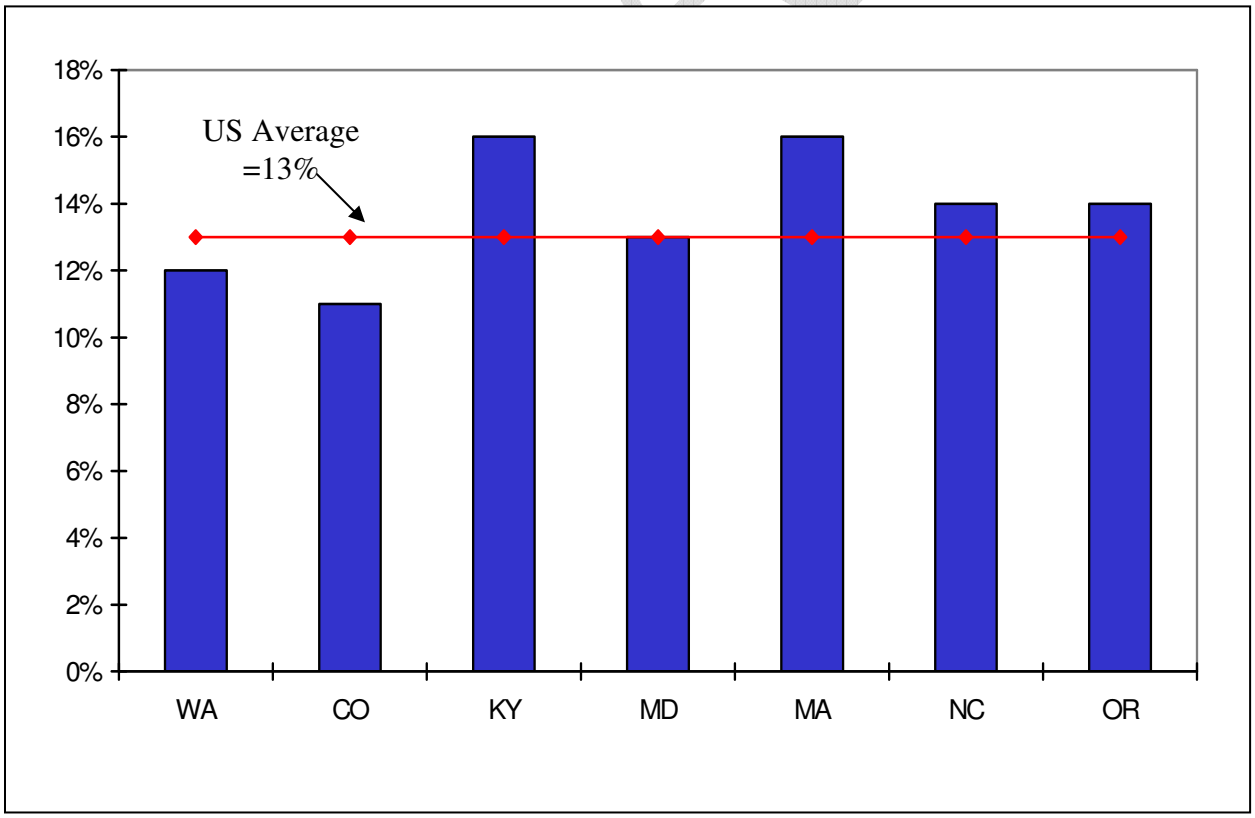
CHAPTER FOUR: TARGETED FUNDING FORMULAS

In addition to calculating funding for basic students, the sample of six states provided additional, targeted funding for special populations of students. Funds for targeted groups are generated either through weighted student formulas, historical spending patterns, or funding set aside by the state. For each of the six states reviewed, we examine below the targeted funding formulas for the following special populations: special education, English language learners, low-income students, and highly capable students. Where applicable, we indicate the relative percentage of the K-12 population that meet the special population designations in each state (refer to **Exhibits 10-12**).

Special Education Students

Federal regulations under the federal Individuals with Disabilities Education Act (IDEA) of 1990 and individual state laws govern the provision of special education services for children with disabilities. The federal role is to establish a framework for identifying and serving children with disabilities; each state then has a role in defining disability categories and determining how state funds will be allocated. This section describes the disability categories and funding methodologies for special education in each of the six states.

Exhibit 10: Percentage of the Total K-12 Population Identified as Eligible for Special Education in 2003-04



Source: NCES Number and percentage of children served under Individuals with Disabilities Education Act, Part B, by age group and state or jurisdiction: Selected years: 1990-91 to 2003-04.

Colorado's special education funding is distributed based in part on historical spending patterns and in part on student counts. A small amount of funding is set aside to pay for special education services for children who are wards of the state and who live in eligible type facilities. Roughly half of the special education funding is considered "base" funding and is allocated to local districts based on historical funding levels. School districts then receive the remainder of available funding based on the number of special education students in the district during the prior year. State funding covers approximately 11 percent of total special education costs; remaining costs are covered by federal funding (18 percent), local funding (70 percent), and other funds (1 percent).

Kentucky, Maryland, and Oregon use a weighted student formula to generate funds for special education. Kentucky established three different disability levels for each student and provides a specific weight to each. **Low incident disabilities** are defined as functional mental disability, hearing impairment, emotional-behavioral disability, visual impairment, multiple disabilities, deaf-blind, autism, or traumatic brain injury and receive a weight of 2.35. **Moderate incident disabilities** are defined as mild mental disability, orthopedic impairment or physically disabled, other health impaired, specific learning disabilities or developmental delay and receive a weight of 1.17. **High incident disabilities** are defined as communication disorders of speech or language and receive a weight of 0.24.

Unlike Kentucky, Maryland and Oregon use one weight for all special education students. In Maryland, an additional weight of 1.17 is added to the foundation student funding. Maryland's special education weight is based on a state adequacy study (see Adequacy section for more information) that determined the per-pupil cost needed, over and above the base cost to ensure that special education students achieve standards. Special education students in Oregon receive a weight of 1 added to their base funding.[16] The double weight reflects a 1988 national study that showed districts were spending on average approximately twice the amount on services to special education students (Legislative Revenue Office, 2001).

Both North Carolina and Massachusetts use enrollment counts to generate funds for special education. In North Carolina, the state provides $2,936 per funded headcount for children with disabilities. Headcount equals either 12.5 percent of the allotted average daily attendance (ADA) or the April 1 child count, whichever is less. In contrast, Massachusetts' special education headcount is multiplied by the cost rate that is set by statute for each of the nineteen expenditure categories. This assumes in-district special education enrollment is set at .375 times foundation enrollment (not including pre-kindergarten and vocational pupils) and .0475 times the vocational enrollment. In **Exhibit 9**, Column G represents the costs rates for special education students.

For special education students served out of district, the budget assumes enrollment is set at one percent of total foundation enrollment (again, not including pre-kindergarten and vocational pupils).

[16] Oregon's special education funding per district is capped at 11 percent of ADA. Districts must receive a cap waiver to qualify for additional special education funding. Additional funding is granted to those districts where the cost to the district is higher than additional ADA federal dollars received.

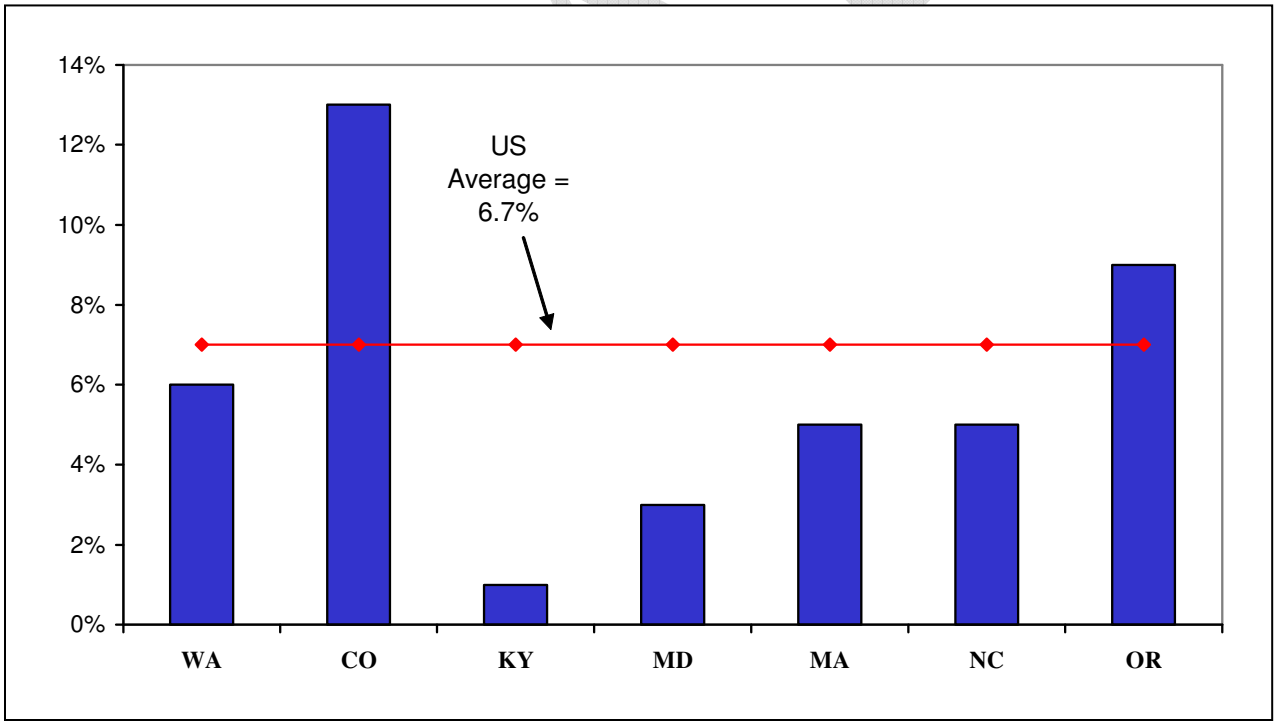
Reimbursements for High Needs Special Education Students

Similar to Washington, Oregon and Massachusetts provide reimbursements for districts with higher needs special education students. In Oregon, special education funding per district is capped at 11 percent of ADA. Districts must receive a cap waiver to qualify for additional special education funding. Additional funding is granted to those districts where the cost to the district is higher than additional ADA federal dollars received. The waiver allows districts to claim reimbursements for higher needs students that cost more than $30,000 per year to educate.

Massachusetts' Special Education Reimbursement Fund ("Circuit Breaker") Program was created with the purpose of reimbursing school districts for high-cost special needs students (Massachusetts Department of Education, 2005). According to state law, school districts are reimbursed for 75 percent of the cost above four times the statewide foundation (Massachusetts Department of Education, 2005). The reimbursements are subject to legislative appropriation.

English Language Learners

Exhibit 11: Percentage of the K-12 Population Defined as English Language Learners in 1999-2000



Source: NCES Data, 1999-2000

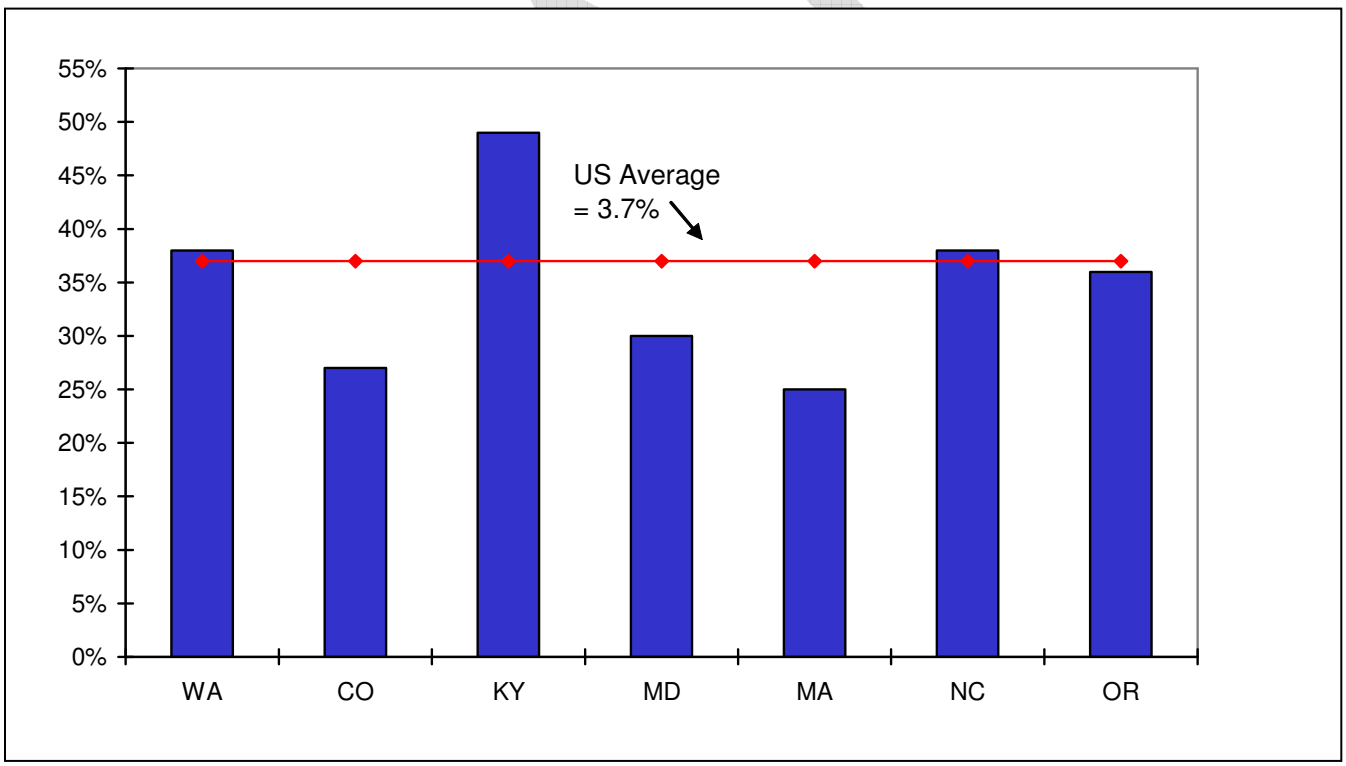
Four of the states -- Colorado, Maryland, North Carolina and Oregon -- provide targeted resources for English Language Learners (ELL) and each provides support through a different mechanism.

Colorado districts receive funding based on three student classifications: (A) students who do not comprehend or speak English, (B) students speak and comprehend some English, but their dominant language is another, and (C) students who speak and comprehend some English but whose dominant language is difficult to identify. More than 75 percent of funding in this program is provided for (A) and (B) students. Funding is provided for a student for a maximum of two years. Current funding (approximately $4 million for 2005-06) will cover costs to provide services to roughly half of the eligible students. Districts may use local funds to supplement state funding, or the student needs are unmet.

Similar to the way special education is funded, Maryland uses a weighted student formula of 1.0 to fund ELL programs. North Carolina's system is unique in that qualifying districts receive the minimum of 1 teacher assistant position rather than a specific funding amount. To qualify, districts must have either 20 students with limited English Proficiency or at least 2.5 times of the Average Daily Attendance (ADA) of the district. Oregon provides an additional weight of .5 to the base funding for children enrolled in a district's ELL program.

Low-income Students

Exhibit 12: Percentage of the K-12 Population Defined as "Low-Income" in 2001-02 SY



Source: Overview of Public Elementary and Secondary Schools and Districts: School Year 2001-02. National Center for Education Statistics, May 2003

Colorado and Kentucky both provide supplemental funding for at-risk students using an additional percentage to the base student amount. Free and reduced price lunch or another low-income measure is typically used as a proxy for the at-risk population. Colorado's at-risk funding is calculated on a per-student basis and determined by the number of students in each

district that qualify for the federal free lunch program.[17] For each at-risk pupil, a district receives an additional 12 to 30 percent of its total per-pupil funding. At-risk students in Kentucky are children from low-income families, defined by their qualification for the federal free lunch program. The guaranteed base is multiplied by 15 percent which is multiplied by the eight-month average number of students who qualified for the free lunch program.

Maryland and Oregon use a weighted student formula to generate funds for low-income students. Maryland's weight of 1.10 is added to the base student funding. The weight reflects the target amount identified in the state's adequacy study. Oregon students in poverty receive an additional .25 weight added into their base per-pupil funding. Poverty rates are based on the number of students that are below the poverty line according to the federal census count. For smaller districts (under 2,500), poverty rates are based on free and reduced price lunch with the rationale that they may have higher poverty rates than are accurately reflected in the census. In addition to poverty, foster care and neglected and delinquent children are each weighted at an additional 0.25.

In contrast, Massachusetts' low-income headcount is multiplied by the cost rate that is set by statute for each of the 19 expenditure categories. Low-income students are reported on the basis of eligibility for free and reduced lunch programs. In Exhibit 9, Columns M & N represent the cost rates for low-income students.

Unlike the other five states that generate low-income student funds through enrollment, North Carolina provides low-wealth supplemental funding to schools in low-wealth counties or those eligible districts whose capacity to generate local revenue is below 100 percent of the state average. The state's low-wealth supplemental funding is a mandate that resulted from the state's adequacy lawsuit. The formula used to determine whether a county is eligible is based on a percentage of each of the following: anticipated total county revenue (40 percent), tax base per square mile (10 percent), and the county's average per capita income (50 percent). Eighty out of 115 districts are eligible for low-wealth supplemental funding based on this formula. Eligible districts have pro-rated funds based on available funding. The current formula is not fully funded: the amount needed to fully fund the formula in 2005-06 is $175.1 million, although only $133.2 million was appropriated. Essentially, while the state does not cap the amount of revenue that local districts can raise, low-wealth funding aims to raise the revenue of low-wealth districts, thus further equalizing funding across districts.

Other Targeted Funding Formulas

Colorado had five additional targeted funding formulas:

- **On-line funding.** This is calculated as the minimum allowed per pupil in the funding formula, with no factor adjustments**.**

[17] Beginning in 2005-2006, the at-risk population definition was expanded to include some English language learners.

- **Highly Capable Students.** School districts are given wide discretion in setting up a gifted/talented program for their students. In 2005-06, categorical funding for gifted and talented education is $6.2 million. To receive funds, school districts must submit an annual plan that outlines its student needs and proposed program. There is a 50 percent match requirement to receive state funds.

- **Small Attendance Centers.** Rural districts with few students face unique costs. In 2005-06, $844,000 was provided to 11 districts operating a total of 13 remote schools; these local districts, in turn, dedicated an additional $1.6 million. Allocation of the additional state funds is based on a formula.

- **Transportation.** Approximately 42 percent of the student population uses district-provided transportation. Districts may operate their own bus fleet and transportation program, or they may choose to contract out. One school district has no transportation program. State assistance is provided to districts to cover operating costs for transportation, but not capital costs. State funding, provided on a per-student mile reimbursement rate, covers approximately 62 percent of total transportation costs.

- **Vocational Education.** Eighty-nine percent of all Colorado school districts provide some type of vocational education programming. State payments made to districts also are based on a reimbursement system, at a maximum of 80 percent for the first $1,250 and 50 percent for the balance. The state will pay approximately $22 million of a total program cost estimated at $77 million.

Like Colorado, **North Carolina** also has small county supplemental funding to assist counties. Counties that qualify for funding are counties with less than 3,230 or with between 3,230 and 4,080 ADMs whose adjusted property tax base per student is below the state average adjusted property tax base per student. The formula for small county funding is the sum of four smaller formulas (North Carolina Department of Public Instruction, 2005).

North Carolina also has disadvantaged students supplemental funding which directs funds to LEAs with the least capacity to address the needs of disadvantaged students. LEAs are eligible for funding based on the following selection criteria: (1) Student proficiency, (2) Teacher turnover, (3) Teacher experience, and (4) Students from low-income families. LEAs that qualify receive $250 per ADM. Funding will not be distributed unless a detailed plan (as identified by the Local Agency Education Assistance Program) is submitted and approved by the State Board.

Oregon has additional supplemental funding for special populations such as pregnant and parenting students and students in foster care.

CHAPTER FIVE: COMPENSATION

Financing an adequate education requires sufficient funding to employ teachers that can effectively teach to state tests and federal mandates. Nationwide, staff salaries and benefits account for approximately 85 percent of education spending. This section examines teacher compensation systems in the review states with a focus on steps they are taking to improve teacher quality and student performance in the context of standards-based reform.

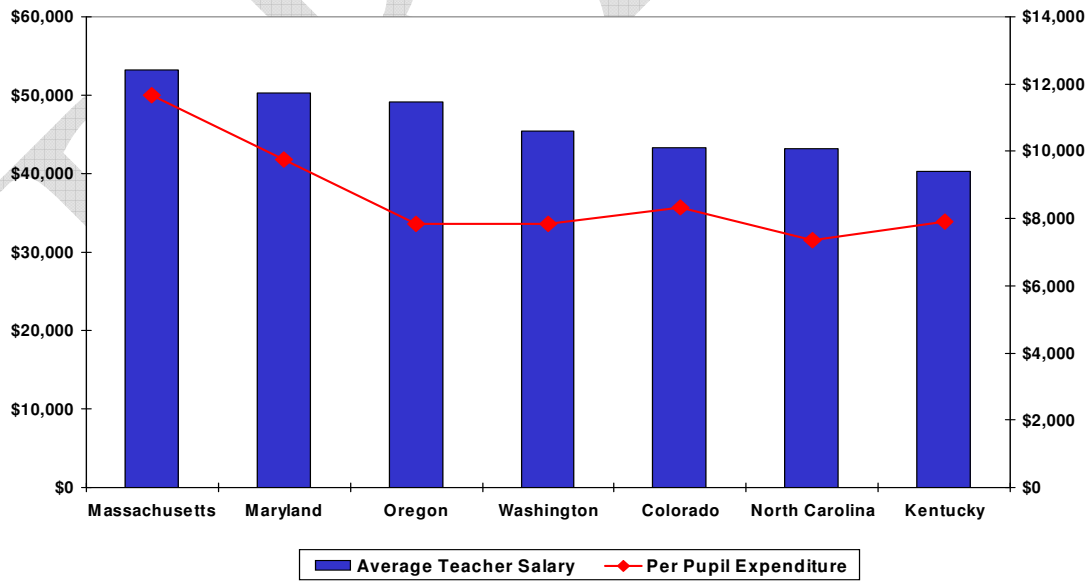
Salary Structure

Salary allocation schedules determine **base pay** for teachers across districts. Starting or **minimum pay** is the lowest step on the salary schedule. **Maximum pay,** or top pay, is the most an individual can earn based on the other elements of the salary structure[18] (Odden and Wallace, 2006).

Average Teacher Salaries

Average teacher salaries are an important measure of expenditures across states. According to the National Education Association, teacher salaries for the 2004-2005 school year averaged $47,808 (National Education Association, 2005, p. 3). Washington ranks 20th ($45,724) in average teacher salary for 2004-05. Of the states reviewed, three rank above Washington, (Massachusetts, 8th, Maryland, 12th, and Oregon, 15th) and three rank below (Colorado, 24th, North Carolina, 27th, and Kentucky, 34th). **Exhibit 13** shows NEA's rankings of average teacher salaries (and, for comparison, per-pupil expenditures)

Exhibit 13: Average Teacher Salaries by State for 2004-05 SY



Source: NEA Fall 2005 Report

[18] Top pay is the highest salary a teacher can earn.

However, it is important to note that data collected by states on teacher pay distorts the average teacher salary reported by NEA. The NEA requests data be submitted according to the following criteria.

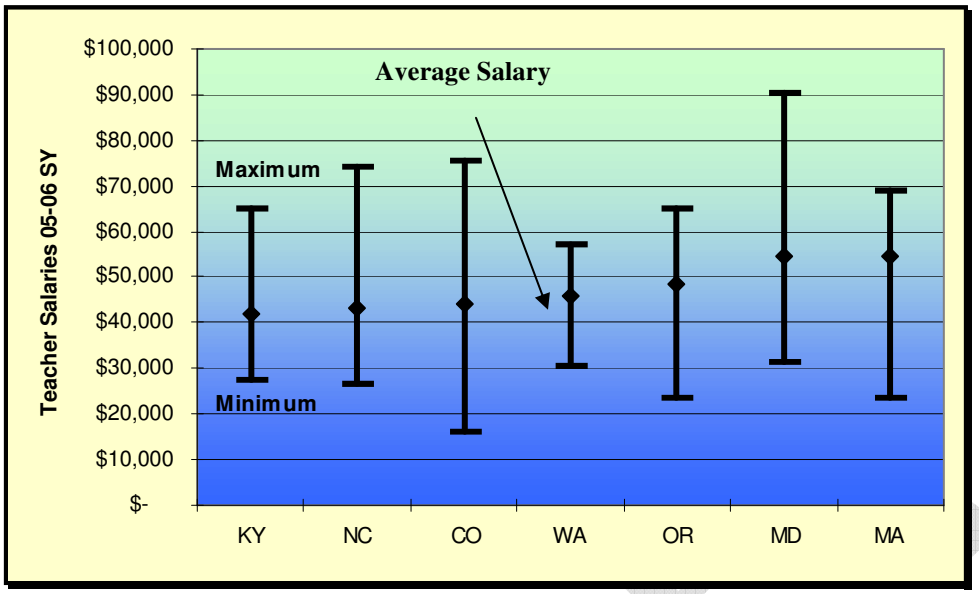
Exhibit 14: NEA Criteria

Average Teacher Salary Criteria	
Teacher	Defines teacher as a classroom teacher.
Teacher Count	Reports the average annual salary of full-time-equivalent (FTE) classroom teachers.
Teacher Status	Includes regular salaries for full-time and part-time employees considered to be in positions of a permanent nature.
Length of Contract	If a teacher is on a 12-month contract and teaches summer school, the summer school payment is included in the salary. If a teacher is on a 10-month contract and teaches summer school, the summer school payment is extra-duty pay and therefore not included in salary.
Supplemental Pay	Supplemental Pay is not included.
Bonus Pay	Bonus pay is not included.
Benefits	Benefits are not included.

Source: **McDougal, Kim. Teacher Pay Review. Florida Department of Education. May 2006.**

Data reported by several of the states in this study do not comply with the National Education Association's criteria for calculating average teacher salary. For instance, North Carolina includes supplemental duty pay in their average teacher salary data. In contrast, Washington State, in compliance with NEA criteria, does not include supplemental pay provided by many districts for additional time, responsibility, and incentives (TRI). In the 2004-05 school year where the average base was $45,724, total average salary, including supplemental pay, was $52,700. Another variance includes how teachers are counted. For example, Kentucky calculates its average salary based on full-time teacher headcount. In contrast, the other five states calculate their average using a "full-time equivalent" (FTE) or the actual hours worked to the hours expected in a full-time position. As a result, the FTE calculation produces a higher average teacher salary than using the total number of part-time and full-time teachers. These examples demonstrate the difficulty in comparing average salaries even as reported by NEA.

Exhibit 15: Compensation Ranges by State



Source: Staff Analysis

Unlike average teacher salaries, which show mean teacher earnings, **Exhibit 15** provides a more complete picture of the compensation ranges for the comparison states and Washington. There is significant variation in **starting salary** among our comparison states. For example, the graph shows that Washington has the smallest compensation range of the other six states. In contrast, North Carolina and Maryland have significant compensation ranges, meaning that there are more steps on the pay scale and /or more significant pay increases at each step. For example, North Carolina's range reflects a built-in salary structure that rewards teachers with pay increases for longevity and separate steps for standard and advanced professional certification.

The average salary falls differently on the range dependent on a number of factors, including experience and degree level of the teacher force. **Exhibit 16** shows that North Carolina has a large percentage of teachers who have only bachelor's degrees (63.2%) which may push the average salary lower on the pay range. In contrast, Oregon has a larger percentage of teachers with master's degrees which may push the average teacher salary farther up the pay range.

Exhibit 16: Teacher Degree Level Data for Four States[19]

State	Total Teachers	Less Than BA	BA	Master's	6 Year Admin Certificate	Masters Plus	Doctorate	Other
Colorado	44,876	0.5%	52.6%	46.2%			.7%	
Kentucky	41,500		25.1%	49.6%		24.5%		.8%
North Carolina	101,826	0.1%	63.2%	33.1%	1.7%		0.8%	1.1%
Oregon	30,045	1.0%	45.5%	53.2%			0.3%	

Source: McDougal, Kim. Teacher Pay Review. Florida Department of Education. May 2006.

Salary schedules in most states include adjustments for teacher experience and education. Of the six states in the review, only North Carolina, like Washington, has a statewide salary allocation schedule for teachers. Maryland has a limited statewide salary structure for teachers and administrators employed in rehabilitative or correctional[20] education programs.

Washington's statewide allocation schedule is based on experience and level of education (bachelor's, master's and doctorate). The state allocates funding for salaries based on the mix of education and experience of the teachers in each district. Although districts are not required to pay teacher salaries according to the statewide allocation schedule, they cannot pay less than minimums for staff with bachelor's or master's degrees with no credits and experience, and they cannot exceed their average state allocation for base pay. Most districts pay base salaries using the statewide salary allocation schedule. In addition to base pay, teachers can negotiate locally for one-year supplemental contracts for additional time, responsibility, or incentives (TRI) that exceed the state salary allocation. These additional salary dollars must be paid with local levy dollars.

North Carolina also has a statewide salary structure (see **Exhibit 14**) based on experience and level of education. As in most states, local districts in North Carolina may pay teachers above the state allocation and do not require a separate contract to do so. Unlike Washington, the North Carolina's statewide salary structure (see **Exhibit 4**) incorporates steps for standard and advanced professional certification levels and for the National Board Certification (NCBT).

[19] Massachusetts does not collect data on teacher degree level. Maryland data was not collected for purposes of the study.

[20] Any institution that is under the jurisdiction of: the Department of Juvenile Services; or the Department of Health and Mental Hygiene, any vocational rehabilitation program operated by the State Department of Education, and correctional education program operated by the State Department of Education in a facility of the Department of Public Safety and Correctional Services. MD. CODE ANN., EDUC. § 6-302

Exhibit 17: North Carolina Statewide Salary Structure—FY 2004-2005

Years of Exp	Bachelor's Teacher			Bachelor's w/ NBPTS Certification		
	Monthly Salary	12 Monthly Installments	Annual Salary (10 months)	Monthly Salary	12 Monthly Installments	Annual Salary (10 months)
0	$2,626	$2,188.33	$26,260	N/A	N/A	N/A
1	$2,668	$2,223.33	$26,680	N/A	N/A	N/A
2	$2,712	$2,260.00	$27,120	N/A	N/A	N/A
3	$2,868	$2,390.00	$28,680	$3,212	$2,676.67	$32,120
4	$3,008	$2,506.67	$30,080	$3,369	$2,807.50	$33,690
5	$3,142	$2,618.33	$31,420	$3,519	$2,932.50	$35,190
6	$3,271	$2,725.83	$32,710	$3,664	$3,053.33	$36,640
7	$3,375	$2,812.50	$33,750	$3,780	$3,150.00	$37,800
8	$3,423	$2,852.50	$34,230	$3,834	$3,195.00	$38,340
9	$3,472	$2,893.33	$34,720	$3,889	$3,240.83	$38,890
10	$3,522	$2,935.00	$35,220	$3,945	$3,287.50	$39,450
11	$3,571	$2,975.83	$35,710	$4,000	$3,333.33	$40,000
12	$3,622	$3,018.33	$36,220	$4,057	$3,380.83	$40,570
13	$3,673	$3,060.83	$36,730	$4,114	$3,428.33	$41,140
14	$3,726	$3,105.00	$37,260	$4,173	$3,477.50	$41,730
15	$3,780	$3,150.00	$37,800	$4,234	$3,528.33	$42,340
16	$3,835	$3,195.83	$38,350	$4,295	$3,579.17	$42,950
17	$3,890	$3,241.67	$38,900	$4,357	$3,630.83	$43,570
18	$3,949	$3,290.83	$39,490	$4,423	$3,685.83	$44,230
19	$4,007	$3,339.17	$40,070	$4,488	$3,740.00	$44,880
20	$4,065	$3,387.50	$40,650	$4,553	$3,794.17	$45,530
21	$4,127	$3,439.17	$41,270	$4,622	$3,851.67	$46,220
22	$4,188	$3,490.00	$41,880	$4,691	$3,909.17	$46,910
23	$4,254	$3,545.00	$42,540	$4,764	$3,970.00	$47,640
24	$4,318	$3,598.33	$43,180	$4,836	$4,030.00	$48,360
25	$4,383	$3,652.50	$43,830	$4,909	$4,090.83	$49,090
26	$4,449	$3,707.50	$44,490	$4,983	$4,152.50	$49,830
27	$4,517	$3,764.17	$45,170	$5,059	$4,215.83	$50,590
28	$4,588	$3,823.33	$45,880	$5,139	$4,282.50	$51,390
29	$4,659	$3,882.50	$46,590	$5,218	$4,348.33	$52,180
30+	$4,659	$3,882.50	$46,590	$5,218	$4,348.33	$52,180

NOTE: "NBPTS" stands for National Board for Professional Teacher Standards.

Source: North Carolina Department of Public Instruction, 2006

North Carolina provides additional pay for new teachers, extended contract, longevity pay, supplemental pay, ABC and Retention Bonuses, mentor pay and other assignments, as shown in **Exhibit 18** below.

Exhibit 18: Average Teacher Compensation—FY 2005-2006

Category	2005-06	2004-2005
Average Base Salary	37,915	37,388
New Teacher Orientation	18	16
Extended Contract	7	19
Tutor	232	228
Longevity Pay	939	972
Supplemental Pay	2,967	2,860
ABC and Retention Bonuses	901	949
Workshop Participant	26	21
Annual Leave Pay	269	361
Mentor Pay	118	107
Other Assignments	346	347

Source: North Carolina Department of Public Instruction, 2006

Of the six states in the review, five —Oregon, Maryland, Massachusetts, Colorado, and Kentucky—do not have statewide salary allocation structures. In most cases, teacher pay and benefits are negotiated by the local school district and their teachers. However, some of these states have local requirements that districts must meet in bargaining local pay.

- Prior to 1990, **Kentucky** employed a minimum salary schedule with periodic mandated increases. Following the Kentucky Education Reform Act (KERA), districts provided salary increases as they saw fit. In 1998, the Legislature again began mandating salary increases to districts' locally bargained salary schedules. These mandated salary increases have forced districts to use most, if not all, of their additional state revenue on higher salaries. The budget for the 2006-2008 biennium includes a step toward reaching the surrounding states' average teacher salaries. Funding for a 1% increase in the base funding level was included in addition to the funding for the salary increases. Also included was a significant increase in the funding for preschool. This added state funding will free up district funds that had been used to provide preschool for other uses.

- In **Colorado**, section 191 of Colorado Public Law (HB 95-1014) requires that the board of every school district adopt a salary schedule, a salary policy based on teacher performance, or a combination of the two.

Modifications to the Salary Structure

Wage Adjustment Factors

Some states use **regional or geographic cost adjustments** for districts that face high market competition for teachers. There are two primary methodologies that are used for regional cost adjustments (Taylor and Fowler, 2006).

- The **Cost-of-Living Index** assumes that districts with higher cost of living or a lack of amenities will have to pay more to attract teachers. This approach adjusts for the cost of living using a "market basket" strategy or by determining comparable wages.

- The **Cost of Education Index** utilizes data on school district expenditures to adjust for the cost of providing a comparable level of educational services or outcomes.

Of the states in this review, only **Massachusetts** provides adjustments to the basic salary structure using a "wage adjustment factor" based on a cost-of-living-index. The additional "wage adjustment factor" is designed to account for regional differences in cost of living and salary expectations. Under the Massachusetts' model, a district is given credit for bearing higher costs if, locally, average wages are higher. A district's wage factor is a percentage that is applied to salary items in the foundation budget. The difference from the state average, higher or lower, (as shown in **Exhibit 16**) is divided by three and combined with the town's own factor (Massachusetts Foundation Budget).

The wage factor is calculated using average salary data from the state's Department of Employment. The factor reflects a locality's average wage, but is heavily weighted toward the average of the "labor market area" of that locale. The purpose of developing labor market areas was to try to bridge the gap between where people work and where they actually live. Labor market areas were defined by commuting pattern data from the 1990 Census and input from the state Departments of Employment and Training or Employment Security.

Exhibit 19: 2002 Average Wage by Labor Market Area

Labor Market Area	Avg Wage	Pct of State Avg
Athol	26,958	60.2
Barnstable -Yarmouth	31,913	71.3
Boston	50,006	111.8
Brockton	35,426	79.2
Dukes County	32,042	71.6
Falmouth-Bourne	33,370	74.6
Fitchburg-Leominster	32,675	73.0
Great Barrington	28,367	63.4
Greenfield	28,990	64.8
Lawrence	42,379	94.7
Lowell	49,864	111.4
Nantucket	36,705	82.0
New Bedford	32,575	72.8
North Adams	30,071	67.2
Pittsfield	34,324	76.7
Fall River	30,085	67.2
Provincetown	26,661	59.6
Springfield	34,069	76.1
Worcester	38,278	85.5
Balance of Western MA	23,009	51.4
Balance of Central MA	31,810	71.1
State Average	44,745	

Source: Massachusetts Department of Education

Wage Premiums and Other Financial Incentives

A number of the comparison states have implemented financial incentives to recruit and retain teachers in hard-to-staff schools or for critical shortage subject areas or provide incentives to recruit minority teachers. Below are general definitions of each of these incentives:

- **Hard-to-staff schools and high-risk schools** typically serve high populations of students who live in poverty and perform poorly on standardized tests.

- **Critical shortage subject areas** are subjects where the supply of qualified teachers does not meet the demand (typically math, science and special education). The result of critical area shortages can be an increase in the rates of "out-of-field" teaching (Education Commission of the States, 2002).

- **Minority teacher recruitment policies** create incentives that attract minority teachers to serve diverse student populations.

Financial incentives, broadly defined, include: (1) wage premiums such as **yearly bonuses or increased salaries;** (2) college **scholarships, deferment or loan forgiveness** programs; and (3) housing benefits. Most of the comparison states offer some type of financial incentives. Increasingly, **wage premiums** have been used as a tool to provide incentives for quality teachers to serve in hard-to-staff or critical area shortages.

- Kentucky, Massachusetts, Maryland, and Oregon offer financial incentives for teachers serving in hard-to-staff schools. North Carolina provides disadvantaged student supplemental funding which can be used to provide additional pay to teachers serving in hard-to-staff schools.

- Colorado, Kentucky, Maryland, Massachusetts, and Oregon offer financial incentives for teachers serving in critical shortage subject areas.

- Kentucky offers financial incentives to recruit minority teachers.

Maryland provides tuition assistance for students preparing to teach in critical shortage subject areas and tuition reimbursement to current teachers retraining in the fields of mathematics and/or science. Maryland also provides a stipend for qualified teachers who serve in schools not meeting performance standards as defined by the state.

- Teachers in the Maryland school system are eligible for tuition reimbursement if they are: (1) certified in a subject other than math and science, (2) currently employed as a teacher in the state public school system, (3) agree to teach mathematics or science in the Maryland public schools for two years, and (4) are seeking certification in mathematics or science. Teachers must teach mathematics or science in a Maryland public school system for at least two years after obtaining certification. (Code of Maryland Regulations, 2004)

- **Sharon Christa McAuliffe Memorial Teacher Education Award** is a Maryland Higher Education Commission award to assist students who would like to teach in Maryland in a critical shortage subject. Students must maintain a 3.0 GPA and sign a promissory note agreeing to teach in a shortage area one year for each year of the award. The scholarship award may not exceed $17,700 and is renewable for one year. (Maryland Higher Education Commission, 2006)

- The Maryland State Department of Education provides a $2,000 stipend for classroom teachers who hold an Advanced Professional Certificate and work in schools identified by the State Board of Education as challenged, reconstitution-eligible, or reconstituted schools. In Maryland, only teachers whose performance is deemed "satisfactory" qualify for the stipend (Maryland State Department of Education, 2005).

Massachusetts provides financial incentives for teachers to serve in critical subject areas and hard-to-staff schools.

- The **Massachusetts Initiative for New Teachers (MINT)** program is an intensive statewide training program for new college graduates and mid-career professionals. The purpose of MINT is to recruit and train quality candidates who will teach in a critical area subject in a high-needs school district. The signing bonus portion of this program was discontinued due to state budget cuts; however, the program currently offers financial incentives such as tuition scholarships. Specifically, the Massachusetts Department of Education will award approximately 100 scholarships to candidates who commit to serve for three years in a designated high-needs MINT district. (Massachusetts Department of Education, 2006).

Kentucky provides financial incentives for teachers to serve in critical subject areas and hard-to-staff schools, and scholarships for minority teachers.

- The state has a history of providing incentives for teachers to staff hard-to-serve schools dating back to the Kentucky Education Reform Act (KERA) in 1990. One of the provisions of the original KERA, the **Distinguished Educator (DE) Program**, provided extra compensation for distinguished teachers to serve in schools whose accountability index declined over a two-year biennium. In 1998, the statute was later changed to provide a focus on assistance to low-performing schools.[21] The revised program and statute provides for "highly skilled educational assistance" (HSE). DEs were to receive a compensation of 150 percent of their salary at the time of appointment, adjusted for twelve-month employment. The amount was adjusted down to 135 percent in the 1994-1996 biennium. The Kentucky Department of Education (KDE) imposed a cap of $90,000 on HSE salary (excluding benefits) (Schenk, 2004).

- In April 2002, Kentucky passed KRS 157.075, which mandated the development of **Differential Compensation Pilot Programs** based on three different incentive structures (one of which was to provide incentives to teachers for accepting difficult assignments in teacher-shortage geographic and subject matter areas). The programs ran from July 2003 to June 2005. The Legislature discontinued funding in 2005.

- The Kentucky Higher Education Assistance Authority's (KHEAA) **Teacher Scholarship Program** provides financial aid to qualified Kentucky students pursing initial certification at select Kentucky institutions. Teachers will have two semesters of debt canceled for every semester they teach in critical shortage areas.

[21] The initial statute required distinguished educators to provide assistance to any school in decline, but ironically, many declining schools were also high scoring schools.

- The Kentucky Higher Education Assistance Authority's (KHEAA) **Best in Class Program** provides interest and/or loan forgiveness for teachers. Twenty percent of the loan principal is forgiven for science, mathematics, special education, and English as a Second Language teachers who work in Kentucky elementary or secondary schools (Learning Point Associates, 2006).

- The Division of Educator Quality and Diversity, within the Department of Education, offers the **Minority Educator Recruitment and Retention Scholarship**. In collaboration with Kentucky's state universities, students are provided $5,000 per academic year provided that they work one semester in a Kentucky school for each semester of funding.

Colorado offers incentives for teachers to serve in critical subject areas, but not in hard-to-staff schools.

- The Colorado General Assembly directed the Colorado Commission on Higher Education to develop and implement a teacher loan forgiveness pilot program in the 2001-2002 school year. The program was continued by the General Assembly in the 2004 legislative session. The pilot paid all or part of the principal interest of a loan for first-year teachers hired for the following positions: 1) math, 2) science, 3) special education and 4) linguistically diverse education. An individual who qualifies for the pilot program loan is eligible for up to $2,000 in loan forgiveness in the first year of teaching and $2,000 in subsequent years up to three years of teaching (Learning Point Associates, 2006).

In addition, Denver, Colorado provides additional pay for hard-to-staff positions and hard-to-serve schools as of one four components in the ProComp alternative compensation system. (The program is examined further in a later section.)

Oregon provides financial incentives to attract teachers to hard-to-staff schools and subject areas where there are critical shortages. Examples of Oregon's programs are as follows:

- **Oregon Teacher Loan Corps Program**. The statute states that the loan shall be given to applicants that the commission determines are (1) prospective teachers in scarce endorsement areas, such as defined by the Teachers Standards and Practice Commission and (2) prospective teachers that agree to teach in remote and difficult-to-serve districts in Oregon (Learning Point Associates, 2006).

It is worth noting that while **North Carolina** has been recognized for supporting policies and programs that aim at the recruitment, development and retention of high-quality teachers, the state does not provide incentives for teachers to serve in hard-to staff schools. North Carolina does provide disadvantaged student supplemental funding (see Targeted Funding section) which can be used for the following purposes: (1) additional pay (signing bonuses, performance-based bonuses, and targeted salary supplements/retention) and (2) additional resources to improve student performance (e.g., class size reductions).

Alternative Compensation Systems

School districts have experimented with alternative teacher compensation methods since the 1980s when a report to the Secretary of Education (National Commission on Excellence in Education, 1983) suggested changing teacher compensation to a performance basis (Odden and Wallace, 2006). Despite attempts to implement alternative compensation structures across the states, the single salary structure, based on longevity and educational credits and degrees, is still the norm. The objective of alternative compensation structures is to move away from single

salary schedules, like Washington's, towards a compensation system more aligned with performance outcomes. The following section examines the states in the review that have implemented **pay-for-performance** or **knowledge and skills based pay (KSBP)** elements on a state or district level. In addition, efforts that combine multiple approaches are discussed.

Pay for Performance

Pay for performance is awarded on an individual or group level to recognize improvements in student achievement (Odden and Kelly, 2002). Pay-for-performance incentives are reliant on state or local standardized test scores, and thus, are often linked with statewide accountability reform measures. Incentive programs have been around for more than a decade and various models have emerged. In a review of current state programs there are two common types of pay for performance:[22]

- **Group-based performance incentives** provide bonuses to groups of teachers or school personnel if student achievement within a school meets predetermined criteria.
- **Individual teacher performance** pay is based on individual performance goals, often awarded out of a predetermined amount of funds.

Both Kentucky and North Carolina have implemented group-based bonus programs as part of state accountability reform efforts. Kentucky was the first state to provide group-based bonus awards as part of the Kentucky Education Reform Act (KERA) in 1990. Kentucky's program was based on a proficiency model similar to that of NCLB which rewards schools that have a large percentage of students meeting performance standards (Odden and Wallace, 2006). [23] Funding was reduced from $10 million in 2002 to $3 million in 2003 and has not been funded since.

North Carolina has operated a statewide pay-for-performance system since the implementation of the ABCs of Accountability Reform in 1996. The program is based on the value-added approach (Odden and Wallace, 2006), which estimates "expected gains" based on calculations of the previous year's average growth. The schools' scores on state End-of-Grade (EOG) tests in reading comprehension and mathematics are measured against these "expected gains." Growth is based on a formula set by the State Board of Education that calculates expected gains for an individual cohort of students. The formula for calculating growth is based on three factors:

[22] A few programs are based solely on individual performance.
[23] This approach is referred to as "Gain to Standard"

1. The North Carolina average rate of student academic growth in the respective grade and subject;
2. An estimate of the "true proficiency" of the students in a school; and
3. An estimate for the movement of students' scores due to regression to the mean (Public Schools of North Carolina, 2004).

Teachers and other certified personnel can earn group-based bonus awards if their schools achieve expected or high growth in student achievement. Up to $1,500 plus benefits are awarded to certified instructional staff. Up to $500 is awarded to teaching assistants in schools that

achieve high growth in student achievement. Certified instructional staff and teacher assistants are awarded up to $750 plus benefits and $375 plus benefits in schools that reach expected growth, respectively. In contrast, low-performing schools that neither meet school-specific gains nor the statewide performance standard of 50 percent or above receive no recognition.

Knowledge and Skills-Based Pay (KSBP)

Like pay-for-performance programs, Knowledge and Skills-Based Pay (KSBP) is viewed as a vehicle for improving teacher quality. Unlike pay-for-performance, KSBP rewards teachers for specific skill sets or development. If the program is designed correctly, the system should reward knowledge and skills necessary for the organization to accomplish its goals. (Odden and Kelley, 1996)

KSBP can be implemented by adding onto, adjusting or replacing the single salary schedule. Examples of elements recognized in KSBP systems include such things as:

- Certification through the National Board for Professional Teaching Standards (NBPTS)
- Mentorship
- Professional development, subject knowledge, and advanced degrees or training

North Carolina is one state in which KSBP is implemented through adjustments and add-on bonuses to teacher salaries. The state rewards teachers who successfully obtain National Board certification with salary adjustments. The state also provides bonuses to teacher mentors. In addition, Maryland and Kentucky offer bonuses to those who obtain National Board certification. While few states have replaced the single salary schedule with KSBP provisions, Colorado operates two district programs.

National Board Certification

North Carolina's statewide salary structure incorporates an added step for National Board certification (NCBT). Experienced teachers (with more than three years of experience) who successfully earn certification from the NCBT earn a 12 percent increase in base salary continuing for the life of the certificate. In addition, the state pays the $2,000 NCBT assessment fee for eligible teachers and provides them up to three days' leave to obtain certification.

As a result of the North Carolina's policy investment, the state currently ranks first in the nation in the number of teachers that are certified by the National Board (almost 10 percent of the state's teaching force) (North Carolina Department of Public Instruction, 2006).

Kentucky, Maryland and Washington also provide bonuses to teachers who obtain their National Board Certification. Both Kentucky and Maryland offer $2,000 in addition to base pay, and Washington offers $3,500 in addition to base pay for teachers who successfully obtain certification. In Maryland, individual districts provide additional compensation incentives for teachers receiving National Board certification ranging from $1,000 to $2,000. Maryland provides a stipend of up to $2,000 a year as a dollar-for-dollar match to local school systems for teachers who earn National Board certification.

Mentor Pay

North Carolina, Maryland and Kentucky all require and finance mentorship programs for novice teachers (Research Center, 2006). Maryland finances a statewide program that provides local grants to districts to establish or expand mentoring programs to support all novice teachers (Research Center, 2006). Massachusetts provides $2,500 bonuses to 285 individual National Board-certified teachers who mentor apprentice teachers, although the state does not require mentorship of novice teachers. North Carolina offers two types of mentorship pay to be used to mentor newly certified teachers, entry-level instructional support personnel who have no previous teaching experience, and second-year teachers who were assigned a mentor in their first year of teaching:

- **Regular or part-time mentor pay** where mentor teachers are compensated at a rate of $100 per month. Teachers with a minimum of three years of teaching experience are eligible to become mentors.

- **Full-time mentor program where** LEAs submit a detailed mentor plan, and upon approval, are allotted three-year average mentor costs. This type provides more flexibility to the districts to create their own program.

Professional Development

North Carolina is also nationally recognized for supporting extensive professional development efforts to improve teacher quality since the Excellent Schools Act (1997). The act established written professional development standards and financial rewards and incentives for professional development for all districts. Most of the state's professional development programs operate under the North Carolina Center for School Leadership Development.[24] The state is unique in the number of programs that provide professional development for teachers that teach in high-

[24] These include the North Carolina Center for the Advancement of Teaching (NCCAT), the North Carolina Teacher Academy (NCTA), the Mathematics and Science Education Network (MSEN), the North Carolina Principals Fellow Program (PFP), The Principals' Executive Program, the North Carolina Model Teachers Education Program, (NCMTEP), Teachers of Excellence for All Children and North Carolina Improvement Project and North Carolina Rise (The North Carolina Restructuring Initiative in Special Education).

demand subjects such as mathematics, science, and special education. For example, the Mathematics and Science Education Network (MSEN) sponsors programs for teachers aimed at

improving mathematics instruction and curriculum and increasing the number of qualified teachers in mathematics and science.

Kentucky has also supported strong policies in relation to professional development for teachers. In 2000, the General Assembly expanded several initiatives to enhance professional development opportunities for teachers. A sample of state-sponsored programs include:

- Teachers Professional Growth Fund to provide stipends and tuition to improve content knowledge and teaching skills in core areas (math teachers were given priority in 2002; middle school teachers in 2004)
- Middle School Academic Achievement Center (hosted at a public university)
- Funding for teacher academies and stipends for teachers who attend them
- Funding for professional development in school technology

Appropriations for each year of the 2002-2004 biennium totaled between $15 million and $20 million. However, funding for regional services which supported professional development was eliminated in 2004 and has not been reinstated.

Beginning in Fiscal Year 1996, the Massachusetts K-12 budget required that school districts spend a specified amount from their foundation budget to finance professional development. That fiscal year amount was set at $25 per pupil. The amount increased each fiscal year until 2000 when it reached $125. Funds set aside could be use for a variety of purposes to support professional development expenses, such as:

- Salaries for full-time directors of professional development
- Salaries for teachers, librarians, guidance counselors, and others who participate in service where at least 50 percent of the time is spent on professional development
- Supplies and materials, dues and subscriptions, and travel materials

Beginning in Fiscal Year 2004, this requirement was eliminated and has not been reinstated.

Neither Oregon nor Maryland pay for professional development for teachers at the state level (Research Center, 2006).

Multiple Approaches

Elements of alternative compensation systems (pay-for-performance, KSBP) often reinforce each other within the larger context of accountability reform. In North Carolina, the state offered rewards and incentives for teacher performance and professional development efforts as part of the state's larger accountability reforms. A similar statewide program was implemented in Kentucky on a pilot basis in 2002, but was soon discontinued due to lack of funding.

In the case study states, alternative compensation programs that combine multiple approaches have emerged at the district level. Colorado is an example of a state with two district-level programs that combine multiple approaches: Denver and Douglas County.

North Carolina Compensation System

As part of the state's broader accountability reform movement, North Carolina has taken steps to raise teacher salaries, align teacher compensation with performance outcomes, and invest in programs to improve teacher training. Two critical pieces of reform legislation led to the state's current compensation system. The first, the *ABCs of Public Education (1996*), directed funds to local districts and holds them accountable through group-based performance rewards for gains in student achievement. The second, the *Excellent Schools Act of 1997*, centered on improving teacher standards by increasing accountability through implementing pay-based incentives, strengthening evaluations, and providing two years of paid mentoring for new teachers. The act also strengthened incentives for teachers pursuing certification from the National Board for Professional Teaching Standards. North Carolina supports the following statewide programs:

- **Pay for Performance (**group-based performance rewards**)**
- **Knowledge and Skill-Based Pay (KSBP)** (professional development training, mentorship program, incentives to obtain National Board certification)

North Carolina is one of the few states in the nation to combine a statewide pay-for-performance program with KSBP incentives.

Kentucky's Pilot Program

In 2002, the Kentucky Legislature funded a differential compensation pilot program in ten districts. Participating districts were to pilot compensation programs based on one or more of the following ideas:

- **Market Incentives:** Recruit and retain teachers in critical shortage areas and provide incentives for teachers to serve in difficult assignments and hard-to-fill positions.
- **Knowledge and Skill-Based Pay**: Provide career advancement opportunities for classroom teachers who voluntarily wish to participate, or reward teachers for increasing their skills, knowledge, and instructional leadership within the district or school.

The program was not funded in the 2005-2007 biennium.

Denver's Professional Compensation Program for Teachers (ProComp)

The Denver Public Schools and the Denver Classroom Teachers Association sponsored the Pay for Performance pilot (Catalyst for Change, 2004). Both parties agreed to a four-year (1999-2003) pilot of 16 schools to test whether student academic growth could be fairly used to determine teacher compensation decisions. Denver's Professional Compensation Program for Teachers (ProComp) was created in 2004 as a result of the success of the Pay for Performance pilot. ProComp is a compensation system based on individualized earning opportunities: teachers have the ability to earn additional compensation above the base salary through 9 different elements within four components. The components and elements, also shown in

Exhibit 18 below, are calculated from a single base salary for new staff (and a temporary transition schedule for current staff) and are as follows:

- **Student Growth** (meeting self-determined annual objectives, students passing a state standardized test, and designation of a "distinguished" school)
- **Knowledge and skills** (professional development training, graduate degree or National Board certification, coursework tuition reimbursement)
- **Market incentives** (hard-to-staff positions and hard-to-serve schools)
- **Professional evaluation** (successful supervisor evaluation)

Exhibit 20: ProComp of Denver Public Schools

SUMMARY TABLE — COMPONENTS AND ELEMENTS/LEARNING OPPORTUNITIES

Components/ Index $33,301	KNOWLEDGE AND SKILLS			PROFESSIONAL EVALUATION		MARKET INCENTIVES		STUDENT GROWTH		
Element	Professional Development Unit 2% of Index Salary	Graduate Degree/ National Certificate 9% of Index Salary	Tuition Reimbursement $1,000 Account	Probationary 1% of Index Salary when rated satisfactory	Nonprobationary 3% of Index Salary when rated satisfactory	Hard to Staff Position 3% of Index Incentive Pay	Hard to Serve School 3% of Index Incentive Pay	Annual Objectives 1% of Index Salary, for meeting both objectives 1% of Index Incentive Pay for meeting one objective	CSAP Expectations 3% of index sustainable increase for exceeding expectations. Sustainable decrease of 3% of Index for falling below expectations only if previous increase earned	Distinguished Schools 2% of index for serving in a distinguished school based on multiple measures of student performance
Dollar Amount	$666	$2,997	$1,000	$333	$999	$999	$999	$333	$999	$666
When the Increase is Applied	In monthly installments upon submission of proper documentation	In monthly installments upon submission of proper documentation	Lump sum upon submission of proper documentation	Prorated over 12 months. If unsatisfactory, delayed at least one year	Prorated over 12 months. If unsatisfactory, delayed at least one year	Prorated over 12 months	In monthly installments upon completion of service each month	In June upon analysis of appropriate student data	In early fall, upon analysis of CSAP data	In early fall, upon completion of multiple measures of school perform.
Does Increase Build Pension and Final Average Salary?	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Implemented	2006-07	2005-06	2005-06	2006-07	2006-07	2005-06	2005-06	2006-07	2006-07	2005-06

Source: DenverProcomp.org

Douglas County, **Colorado** has a similar structure that has been in place since the 1994-95 school year. The county is one of the first school districts nationally to implement aspects of knowledge and skill-based pay (KSBP) and performance pay into the salary structure. The initial plan came out of public interest in greater accountability in this use of public funds. In June 1993, a Performance Pay Committee[25] (Kelley, 2000) was appointed by the district to design the plan.

[25] The committee included 20 members appointed by the teachers' union and 10 members appointed by the district.

The resulting performance-based pay plan centers around a base salary based on pay for knowledge (educational units and degrees) and pay for years of proficient experience. Years of experience contribute to salary increases only when teachers receive a proficient rating on annual evaluations. If teachers receive an "unsatisfactory" assessment in any category, they fail to meet proficiency standards and enter into a remediation program.

In addition to this base salary, teachers can receive bonuses through five different programs:

- **Outstanding teacher award** bonuses of $1,250 per year to teachers based on classroom accomplishments. Outstanding teacher awards are based on four criteria: (1) NBPTS standards (2) evaluation of a NBPTS portfolio (3) standards-based criteria and (4) academic growth (Reichardt and Van Buhler, 2002).
- **Site responsibility pay**. Each school receives $5.50 per student to distribute to teachers who have taken on additional duties with students and/or programs. Examples of responsibilities include extracurricular activities, committee work, mentorship or leadership.
- **Group incentive award bonuses** for completion of schoolwide or cooperative activities determined by school-level committees. The 1998-99 payment for each participant was $413 (Kelley, 2000).
- **District responsibility pay** awards bonuses of $500 to $700 to teachers who serve on district-level committees or task forces. Examples of district-level activities include the pay-for-performance implementation team, health insurance committee, the evaluation committee, or the 21st Century Partnership.
- **Skill blocks** awards teachers between $250 and $500 for successful completion of a "skill block" (district-led training) (Hirsch and Samuelson, 2000).

Summary

In summary, the review states have implemented different types of alternative compensation systems. These different experiences with reform provide useful examples for policymakers. While implementation resulted from a variety of factors, fiscal commitment was a key factor in the comparison states. In North Carolina, implementation resulted from political leadership and sustained fiscal commitment (Manzo, 2006). In contrast, a lack of ongoing fiscal support in Kentucky caused the state to struggle with sustained reforms.

It is important to acknowledge lessons learned from the following states:

- **Kentucky** is the first state to experiment with and implement alternative compensation pilots (pay-for-performance, KSBP, and most recently, differential pay). However, Kentucky discontinued its fiscal commitment to the pilots and struggles to secure ongoing fiscal support for reform. Consequently, the state's pilot efforts have failed to lead to a comprehensive statewide alternative compensation system.

- **North Carolina** is one of the few states to have implemented a statewide group pay for performance system. North Carolina also recognizes and provides incentives for KSBP such as National Board certification and professional development.

- **Colorado** is unique in having implemented two local programs where alternative compensation has replaced the single salary schedule. In both instances, teachers move up the salary schedule based on pay-for-performance and KSBP elements. Both examples of district-wide reform resulted from support from local stakeholders and a commitment to finance reform efforts.

In comparison to the states reviewed above, Washington's compensation structure is based on the single allocation salary grid and the state has yet to design or implement comprehensive alternative pay structures on the district or statewide levels, except for National Board certification.

CHAPTER SIX: SCHOOL AND DISTRICT FUNDING BASED ON STUDENT PERFORMANCE

In the early 1990s, Kentucky, Maryland, and North Carolina established statewide accountability systems. As part of accountability reform efforts, the states created student performance measures and targets for the state, district, and school levels. In addition, each state developed a system of rewards to encourage districts to meet state standards. **Exhibit 19** provides a high-level overview of each state's reward program.

Exhibit 21: 2001-2002 Reward Programs

State	Total for Awards (in millions)	Schools receiving awards	Percentage of schools	Awards go to	Average School Award	Criteria for awards (in addition to test)	Basis
Kentucky	$22.4	702	58.5%	School ($959 per teacher)	$31,908	Graduation/dropout; attendance	High and improved performance
Maryland	$2.8	61	5.0%	School (per school and per student)	$45,082	Graduation/dropout; attendance	Improved performance
North Carolina	$75.5	1,288	60.5%	Teachers & teacher assistants ($750 to $1,500)	$58,618	Dropout rate; course taking	Improved performance

Source: Cornett, Lynn M. & Gale F. Gaines. Quality Teachers: Can Incentive Policies Make a Difference? p.16. (http://www.sreb.org/main/HigherEd/leadership/Quality_Teachers.pdf).

In addition, these states have developed intervention and sanctions for schools not meeting targets. Intervention and sanctions ranged from state-funded technical assistance teams to reconstruction of a school. A description of each state's rewards and sanctions program is discussed below.

Kentucky School Performance Program

Kentucky's 1990 education reform included a system of rewards and sanctions linked to the state's assessment instrument (Kentucky Instructional Results Information System), student attendance, dropout, and retention rates. Using baseline data from 1991-1992, the state set targets measured over a two-year cycle for each school. Rewards and sanctions were then determined based on the school's performance. **Exhibit 20** below illustrates the five different status levels, the program's outcome at each level, and the effect of that status on the school.

Exhibit 22: Kentucky's School Performance Program Status Levels

Status	Program Outcome	Effect
Reward	Exceeds accountability goals	Monetary award
Successful	Meets accountability goals	No effect
Improving	Above baseline – below goal	Transformation plan
Decline	Less than 5 points below baseline	Distinguished educator Improvement funds Transformation plan
Crisis	5 or more points below baseline	Distinguished educator with broad powers Loss of job security Improvement funds Transformation plan

Source: Kelley, Carolyn (1998). The Kentucky School-Based Performance Award Program: School-Level Effects. Education Policy, 12(3), 307.

Schools exceeding their performance targets are designated reward status and receive monetary funds based on their number of teachers. Teachers then decide to use the funds for professional development, general school improvements, or even teacher bonuses. In the first biennium, 98 percent of the schools with reward status used their money for salary bonuses (Kelley, 1998). It is important to note that the award distribution process created a contentious atmosphere between teachers and the classified staff in some schools.

On the other end of the spectrum, schools designated as "in crisis" were subject to sanctions. These schools were assigned a "distinguished educator," a teacher or administrator on leave from regular duties. The distinguished educator in a crisis school has broad powers to terminate teachers and override school-site council decisions. In addition, the school receives improvement funds and must turn in a transformation plan that outlines how the school will meet its achievement goals in the future. After the first two-year reward cycle, 53 schools statewide were designated either in "decline" or "crisis." After being assigned a distinguished educator and receiving improvement funds, 31 of the 53 schools moved up to "reward" status in the second cycle. The remaining 22 schools were at the "improving" or "successful" status.

From 1991 through 2002, the program was modified to try to address implementation problems . One of the more significant changes was in the labels (status levels) given to schools. Before the switch, there was a great deal of public confusion about the school levels. For example, a very high-performing school could be labeled as "in decline" if they were not improving their performance. At the same time, a very low-performing school could be labeled as "reward" if it exceeded its performance targets. Unlike the old system that only rewarded schools that surpassed performance, the new system gave rewards for schools that improved or met their targets. In 2002, the Kentucky Legislature did not fund the program, due in part to a significant budget shortfall.

Maryland School Performance Program

In 1990, the State Board of Education established the Maryland School Performance Program (MSPP) based on the recommendations of the Governor's Commission on School Performance. As a result, Maryland, like Kentucky, became one of the first states in the country to reform its educational system by holding schools accountable for high levels of education and measurable results for students. Maryland's reform included setting high standards, requiring all schools to design improvement plans to meet the standards, and implementing a sanctions and reward system for schools that did not progress toward standards.

Schools that fail to meet standards may face reconstitution under the state's sanction policy. Each January, the State Superintendent identifies schools that are below the performance standard and declining or not making substantial and sustained improvement gains through the school improvement plan. Schools identified as reconstitution-eligible must submit and obtain approval from the State Board for a plan outlining how the school and the school system will remedy performance problems. If accepted, the Department of Education then monitors the plan to ensure schools stay on track. If the plan is not approved, or if school improvement continues to decline, the state could take direct action. An intervention could include hiring a third party, such as a university, to run the school.

In 1996, the Governor, with the support of the Maryland Legislature, established monetary rewards to recognize schools for their performance. To receive the reward, schools had to demonstrate significant improvement over a two-year period. Rewards, given for one year, ranged from $25,000 to $50,000, depending on the level of performance. The school improvement team determined how the money would be spent. Unlike Kentucky, however, expenditures from these rewards could not be used for salary bonuses, increases in base pay, or supplanting funds in the regular budget.

North Carolina

In 1985, the General Assembly passed the Basic Education Program (BEP) and broadly defined the prerequisites for basic education. The expansive nature of BEP and the lack of an accountability component initiated the first steps towards accountability reform. In the late 1980s and early 1990s, the state passed several accountability reform packages.

In 1995, the General Assembly reviewed the standard-based accountability reform efforts and decided that not enough progress had been made to meet the state's workforce demands. The State Board of Education directed the Legislature to "examine the structure and functions of the state public school system with a view to improving student performance, to increasing local flexibility and control, and promoting economy and efficiency." This directive led to the passage of two pillars of reform legislation:

- School Based Management and Accountability Program of 1996 focuses on (A) Accountability, (B) Basic Skills, and (C) Local control. Under the ABCs, funds are redirected to local school districts, and districts are held accountable for gains in student achievement.

- Excellent Schools Act of 1997 centered on improving teacher standards for entering and staying in the profession by increasing the base salary, rewarding teachers' knowledge and skills, strengthening evaluations, and providing two years of mentorship for newly certified teachers. The act also directed the State Board of Education to "develop enhanced requirements for continuing certification." This directive subsequently led to the passage of performance-based licensure which requires that second-year teachers fulfill certain criteria before being issued a continued license. The Excellent Schools Act also strengthens incentives for teachers to continue education, training and certification from the National Board for Professional Teaching Standards.

As described in the compensation section of this report, North Carolina has implemented bonuses for teachers and certified personnel based on expected or high growth in student achievement. Student growth indicators for K-8 are determined by end-of-grade tests in reading and mathematics, computer skills testing in 8th grade, and statewide test scores. Growth indicators in high school include:

- Student performance on eight mandated end-of-course tests: Algebra I; Algebra II; Biology; Chemistry; English I; Geometry; Physical Science; and Physics
- Current year-to-baseline (average of two previous years) comparison of percentages of students completing college/university prep or college tech prep courses of study
- Dropout rate (current year versus two-year baseline) weighted by one-quarter average daily membership
- Gains in the passing rate on high school competency tests from the end of 8th grade to the end of 10th grade (ABCs 2005, 2005)

Sanctions are imposed if a school consecutively fails to meet performance targets. The longer the school continues not to meet its performance targets, the more severe the sanctions become. The first year a school does not meet its performance targets, no sanctions are implemented. If the school does not improve in two consecutive years, it receives technical assistance from the state in the form of training in areas such as: best teaching practices, data analysis, classroom management, cultural competency, and curriculum alignment. After six years of no improvement, the school faces reconstruction.

Conclusion

The purpose or goal of school-based performance awards and sanctions "is to create incentives for educators to modify their skills, capacities, and teaching practices to facilitate improvement in student performance."[26] Research conducted in Kentucky, Maryland and North Carolina suggests that incentives may impact student achievement gains by giving teachers a clear sense of goals that inform professional development and encourage teacher collaboration.[27] Researchers have found that these programs must be carefully designed to avoid increased stress on teachers, overly focused curriculum, and gaming of the system.

[26] Kelley, Carolyn. 1999. The Motivational Impact of School-Based Performance Awards. Journal of Personnel Evaluation in Education. 12:4 Pg. 309.
[27] Ibid. Pg. 323

It is also important to keep in mind that different incentive structures may impact teacher behavior differently. For example, research found that Kentucky teachers were more familiar with their accountability program and the opportunity to receive bonuses for improvements in measured outcomes. In contrast, teachers in Maryland, which provides school improvement funds, were less familiar with the rewards program. The theory is that school improvement funds may motivate principals more than teachers because they have an impact on school budgets. "Another interesting finding was that teachers in Maryland tended to talk about motivation to change teaching practices more in terms of the desire to pursue better educational practices, while the teachers in Kentucky were slightly more likely to frame their motivation in terms of a desire to achieve reward status or avoid sanction."[28]

[28] Ibid. Pg. 321

CHAPTER SEVEN: EARLY LEARNING AND PRE-K TRANSITIONS TO KINDERGARTEN

One strategy used by states to close the achievement gap is to help improve the readiness of children who are entering kindergarten. Proponents of early education claim that quality preschool reduces future costs in juvenile detention, remedial classes, special education, and even health care costs. The following section outlines the efforts the six review states are making to successfully transition children into their kindergarten year and beyond. Unless otherwise noted, the information presented below is a synopsis from "The State of Preschool: 2005 State Preschool Yearbook," published by the National Institute for Early Education Research.

Colorado

Colorado initiated the Colorado Preschool Program (CPP) in 1998 with the intention of reducing the K-12 dropout rate. CPP provides funding for full-day kindergarten, half-day kindergarten, and comprehensive pre-K for at-risk children. Eligibility is determined by the following risk factors: homelessness, substance abuse, poverty (measured at 185 percent of free/reduced price lunch standards), and low levels of parent education.

CPP is funded by state funds and federal HeadStart funds. The state funds are given to local school districts, which can decide how to provide services. Some contract with the local HeadStart program; others create programs within the K-12 system.

Eighty-seven percent of all school districts participate in CPP, and 8,808 children (3- and 4-year olds) were served by the program in 2005. Total state pre-K spending in 2005 was $27.1 million (with an average per-child cost of $3,078).

Kentucky

The Kentucky Preschool Program (KPP) was created in 1990 to help schools meet state accountability standards. The program is offered to low-income four-year olds and to both three- and four-year olds with disabilities.

State funding for KPP is distributed directly to all school districts, which then can contract with HeadStart, private providers, and special education facilities. State funding for KPP has decreased, even as enrollment has increased. Some school districts contribute additional funding to their own preschool programs. In 2005, the total enrollment for KPP was 21,460 children. Total state expenditures equaled $51.6 million, with an average expenditure per child of $2,404.

Maryland

Maryland serves its at-risk four-year olds with the Prekindergarten Program. Eligibility to participate in the program is determined by homelessness or poverty. The state is required to offer a pre-K program to all eligible children by 2007. Depending on program availability, school districts may also offer the program to children with developmental delays. School districts can operate their own pre-K program, or they can choose to contract with HeadStart or other child care centers.

The Prekindergarten Program served approximately 23,380 children in 2005, with approximately $16.9 million in total state spending. The average expenditure per enrolled child was $721.

Massachusetts

Massachusetts created the Community Partnerships for Children (CPC) in 1985 in order to provide early child education for at-risk children. Program scholarships are available to low-income families with three- and four-year olds. As slots are available, other children, with risk factors such as low-birth weight or parents with disabilities, may be able to participate.

Funding for state pre-K is given to local CPC councils, which then contract with public or private centers. Funding for CPC has been declining since 2001, but one of the roles of the newly-created state Department of Early Education and Care is to administer a future universal preschool program. Massachusetts is one of three states in the country (the other two are Washington and Georgia) that has recently created a state agency focused on early care and education. The total program enrollment in Massachusetts is 14,150 children. Total state pre-K spending was $68.6 million in 2005, with an average per-child expenditure of $4,848.

North Carolina

More at Four is the state's prekindergarten program that began serving at-risk children in 2001. Eligibility is determined primarily by income levels, and as space is available, by other risk factors such as disability, chronic health condition, limited English proficiency, or educational need. Services are provided by school districts, private centers, and HeadStart providers.

Total state spending for *More at Four* in 2005 was approximately $49 million. The number of children served was 12,1567, and state spending per child was $4,058.

Oregon

Oregon created a state version of HeadStart in 1987. The state program offers comprehensive services to qualifying three- and four-year olds. Eligibility is determined by income level (at or below 100 percent of the federal poverty level) and by disability.

State funding is provided to all federal HeadStart providers, plus additional public or private child care centers (including schools and universities). Total state program enrollment is 3,502. State spending in 2005 was $26.7 million, with a per-child expenditure of $7,624.

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